THE ELEMENTARY SCHOOL JOURNAL

VOLUME XXX MAY 1930 NUMBER 9

Educational News and Editorial Comment

EXPENDITURES FOR EDUCATION IN 1928

The following statement is quoted from the *United States Daily*.

Total expenditures, public and private, by the federal government, the states, and private institutions for the education of 29,276,068 students enrolled in every level of American instruction from the kindergarten through the university in 1928 amounted to $3,035,341,209, according to a summary table compiled at the United States Office of Education and explained by the acting chief of the Division of Statistics, Maris M. Proffitt.

In 1928 there is recorded an increase of more than $290,000,000 over the cost of approximately the same schools reporting in 1926, it was stated.

The summary table, which includes a classification of public and private schools, the enrolment of each type, the cost per capita based upon the enrolment, and the total expenditures, including outlays, it was pointed out, covers only schools which furnish financial statements of the cost of maintaining and operating the schools. The per capita costs are based upon enrolments because it is not possible to secure statements of the number in average daily attendance, it was stated.

The statistics of the table as they will appear in a publication by the Office of Education in the near future are as follows:

Enrolment of 21,268,417 students in public elementary schools, including kindergartens, and of 3,911,279 students in public high schools, excluding junior high schools, at a cost of $2,184,847,200, or $86.77 per capita enrolled;

Boston University
School of Education
Library

enrolment in private elementary schools, including kindergartens, of 2,289,455 students, and of 341,158 in private high schools and academies at a cost of $228,258,290, or a per capita cost of $86.77.

Statistics relative to universities and colleges, including preparatory students, for public institutions are as follows: enrolment, 347,537; cost per capita, $592.03; total expenditure, including outlays, $205,753,979. For private institutions: enrolment, 571,844; cost per capita, $508.49; total expenditure, $290,775,330.

Teachers' colleges, including all resident students, report 219,119 enrolled, a per capita cost of $207.84, and a total expenditure of $45,542,706.

Normal schools, including all resident students, are recorded as follows: State: enrolment, 48,065; cost per capita, $234.62; and total expenditure, $11,277,101. City: enrolment, 14,154; cost per capita, $240.11; and total expenditure, $3,398,576. County: enrolment, 1,425; cost per capita, $242.96; and total expenditure, $346,215. Private: enrolment, 14,667; cost per capita, $258.06; and total expenditure, $3,785,000.

Industrial schools for delinquents in 1927 reported an enrolment of 84,317, a per capita cost of $264.53, and a total expenditure of $22,303,966.

Schools for the deaf in 1927 appear as follows: State: enrolment, 13,048; and total expenditure, $7,787,739. City, including public schools: enrolment, 3,515; no statistics on the other items. Private: enrolment, 933; cost per capita, $284.34; and total expenditure, $265,289.

Enrolments in schools for the blind in 1927 totaled 6,084; expenditure, $3,838,404; and per capita cost, $630.90.

Schools for the feeble-minded and subnormal are recorded as follows: State: enrolment, 49,791; cost per capita, $342.01; and total expenditure, $17,028,943. City, including public schools: enrolment, 51,814; no statistics on the other items. Private: enrolment, 2,416; cost per capita, $552.65; and total expenditure, $1,335,212.

Government schools for natives in Alaska reported an enrolment of 3,742, a per capita cost of $123.81, and a total expenditure amounting to $463,290. Other public schools for natives in Alaska reported an enrolment of 4,829, a per capita cost of $136.16, and a total expenditure of $657,515. Statistics on the government Indian schools are as follows: enrolment, 28,459; cost per capita, $269.74; and total expenditure, $7,676,454.

THE RADIO IN WISCONSIN RURAL SCHOOLS

The following statement has been issued by the University of Wisconsin.

Thirty rural schools in Dane County are included in an experiment unique in the educational history of Wisconsin, which involves a fifteen-minute radio lesson daily for ten weeks in music and current events over Station WHA, University of Wisconsin. The project began March 17.

The musical programs are directed by Professor E. B. Gordon, of the Uni-

versity School of Music, who is a member of the radio research committee, with Professor Henry L. Ewbank, speech department, and Professor John Guy Fowlkes, School of Education.

About twenty-five Senior women in the public-school music course at the University have charge of the music instruction each Tuesday and Thursday from 1:00 to 1:15 P.M. On Monday, Wednesday, and Friday at the same time, current events of the day are explained and interpreted by professors in the School of Education.

The subjects dealt with during the music-instruction period are: (1) music appreciation, by hearing and becoming familiar with standard compositions; (2) singing, by imitation; (3) rythmic training, by tapping, marching, swaying, and clapping to music; and (4) training in the recognition of the instruments of the orchestra by solo and group demonstration.

The schools, selected by the radio committee mainly for their accessibility, are equipped with radio receiving sets by radio dealers of the state.

Previous to the first of the twenty music lessons, the schools were supplied with comprehensive mimeographed examinations to test the extent of the musical knowledge of the rural-school children. At the end of the ten weeks the same test will be repeated and the benefit derived from the series of lessons calculated.

Each school is supplied with material for making music scrapbooks. Pictures of composers, concert artists, and instruments and reproductions of paintings and etchings dealing with musical subjects are included. The children are encouraged to develop their scrapbooks in original ways, and information which they glean from magazines and newspapers or from other radio programs is given special credit.

Upon completion of the series of lessons, the scrapbooks will be mailed to the School of Music, where they will be graded.

Miss Mary D. Webb, research assistant in the School of Education, is in charge of the organization of the programs. She sends weekly bulletins and instruction sheets to teachers in the selected schools and will make extensive visitations.

The lessons in current events which are broadcast three days a week are in the nature of explanations of magazines and papers already studied by the school children in the sixth, seventh, and eighth grades. Another group of thirty Dane County schools, which will not receive the broadcast lessons, will be given intelligence and information tests at the same time as the radio-instructed group, and the value of the experiment to the radio group will be computed. The pupils will be given information tests every two or three weeks.

RELIGION AND PUBLIC EDUCATION

The following statement was published in the *Chicago Tribune*.

Separate public schools for Jewish children are to be built or bought and operated in the city of Montreal and district. This action, representing one of

the most pointed cleavages between children of any city in educational matters, has been decided upon after years of bickering and strife.

Up to the present Jewish children have attended the Protestant public schools. Of a thirty-three thousand enrolment in Montreal Protestant schools, approximately twelve thousand are Jewish children. Nevertheless, the Jewish people are given no representation on the board of school commissioners nor on the provincial council of public instruction, and all matters are directed from the point of view of Protestant education, with, according to the Jewish attitude, inadequate regard for Jewish ideas.

War has been waged unceasingly by Jewish leaders to obtain representation on the school commission. The case was carried to the privy council, highest judicial authority in the British empire, but their plea was turned down.

Under the present system, which has as its basis the British North America Act, Catholics and Protestants are guaranteed full educational rights. The Catholic schools of Montreal have an enrolment of about 100,000 pupils. No Jewish children go to the Catholic schools, preferring the Protestant institutions.

A bill was introduced in the Quebec legislature to give authority for separate schools for Jewish youth. Immediately came a protest from Catholic church authorities, declaring the rights given by the British North America Act were thereby endangered. A conference between Premier Taschereau and Provincial Secretary David and the heads of the Quebec Catholic church was held in Quebec City at the home of Cardinal Rouleau.

Following the conference, announcement was made that it had been decided to redraft the bill. The Jewish section is not to be part of the provincial council of public instruction, but the Jews will operate outside of that body. A Montreal Jewish school commission will be created and will be master in their own schools, building schools, raising taxes, and providing teachers and textbooks.

The commission will be subject to the control and surveillance of the superintendent of public instruction. Jewish schools must be built and operated only on the island of Montreal and will not be permitted in any other part of the province.

The secularization of schools in the United States has saved this country from divisions of the school population such as are described in the foregoing statement. There are forces at work in some quarters which seek to bring back into the public-school system of the United States religious instruction with all the dissensions which are inevitable where religion is a factor in education. Some well-intentioned people would introduce courses in religion into the school curriculum or would withdraw pupils during the school day and organize them into sectarian groups for religious instruction. Such people should consider what has happened in Montreal. Democ-

racy is jeopardized when the children of any city or nation are educated in separate schools. It is one of the clearest expressions of American democracy that the educational system has refused to participate in ecclesiastical disputes and to subject its children to the consequences of such disputes.

CONSOLIDATION OF SCHOOLS AND TRANSPORTATION OF PUPILS

The United States Office of Education issued in March a mimeographed circular entitled "An Annotated Bibliography of Studies on Consolidation and Transportation, 1923–1929," prepared by Timon Covert, associate specialist in school finance. Circulars of this type represent one of the highly valued services of the Office of Education. The literature of education is so voluminous that it is difficult for students of education and for school officers to keep themselves acquainted with all that is being written on even the most important phases of school organization. The Office of Education, which receives copies of all educational publications, is in a position to provide summaries that make it possible for all who are interested to gain a general view of the literature.

The circular on consolidation and transportation includes 150 titles and a brief annotation on each title. The bibliography is classified under the following headings: "Achievement of Pupils," "Administration," "Descriptive and Historical," "Miscellaneous," "Surveys," and "Transportation."

REPORTING CONVENTIONS

Superintendent H. H. Kirk, of Faribault, Minnesota, prepared on his return from the meeting of the Department of Superintendence in Atlantic City a mimeographed report which he distributed to the teachers in the Faribault school system. The eight pages of this report vividly describe the superintendent's experiences on his way to the meeting and at the sessions which he attended. The example which this report sets should be followed generally. A school board will be very willing to send the superintendent to the meetings of the Department if it finds that something is given to the teachers which permits them to share in the benefits of the superintendent's trip.

A few paragraphs from Superintendent Kirk's report may be quoted in order to show its character.

I attended nine sessions in all, listening to thirty-four addresses and observing one pageant. I attended one breakfast meeting in company with other school men from Minnesota. At this meeting we were addressed by several, chief among whom were President Lotus D. Coffman, of the University of Minnesota, and Commissioner James M. McConnell, of the State Department of Education. I attended two luncheon meetings. The first of these was a meeting of the Phi Delta Kappa fraternity, at which we were addressed by Professor George S. Counts, of Columbia University, upon the subject "Education in Russia." At the meeting of the Atlantic City Rotary Club the program was furnished by school men in attendance. I can hardly state that this meeting was educational, but I did hear some good stories. I also attended one dinner meeting, that of former students of Teachers College and faculty members. This meeting was a strictly educational affair although in somewhat lighter vein than the meetings of the convention proper.

The general session on Monday morning, February 24, dealt with the theme "Education for Friendliness." President Frank Cody, superintendent of schools at Detroit, Michigan, in his address explained the convention theme, which has been referred to. The high lights of this program were an address by Father J. E. Ross, Catholic priest and professor of religious education in the School of Religion at the State University of Iowa, and an address by Superintendent Paul C. Stetson, of Dayton, Ohio. Father Ross's address urged greater co-operation between the parochial schools and the public schools and pointed out several ways in which he thought this co-operation could be effected. Superintendent Stetson spoke so forcibly upon the subject "Friendly Relationships" that I am taking the liberty of quoting all that one of the daily papers had to say about his splendid address. . . . .

Tuesday afternoon I again was obliged to make a choice among nineteen possibilities. I chose to attend the meeting of a group discussing school finance. Dr. Ellwood P. Cubberley, of Leland Stanford University, analyzed the figures of increased school costs during the last fifteen years. He first charged off approximately 40 per cent of this increased cost to the depreciated dollar. He charged off another amount, approximately 20 per cent, to increased attendance, particularly in high schools. The remaining 40 per cent of increased costs, he said, can be reasonably charged up as the legitimate cost of the increased service of the schools to the community as compared with the service formerly rendered.

According to Mr. Cubberley, a great many of the forms of service now provided by the schools were practically unknown fifteen years ago. He referred to such comparatively modern features as differentiated curriculums, homogeneous grouping, classes for defectives and handicapped children, and health departments. He made the statement that the American public is only beginning to spend money on its schools, that in another fifteen years all the items

referred to will be taken for granted and many others. The school fifteen years hence, he stated, will be considered a back number if it does not provide kindergarten education, health service, vocational training and guidance, adult education, social-center work, and extension work.

The session Tuesday evening was occupied entirely by "The Pageant of Time." In this pageant were 2,500 teachers and students of New Jersey schools, a high-school band of 125 pieces, and a chorus of 500 voices. It was a gigantic project, in which were combined the efforts of physical-education departments, music departments, art departments, household-art departments, and English departments. The pageant was designed to promote interest in training for the worthy use of leisure time. It is needless to state that the impression created by the harmony of color, action, and tone was one never to be forgotten.

The chief attraction on the Wednesday morning general program was the address of the Honorable Ray Lyman Wilbur, Secretary of the Interior. Mr. Wilbur's address was principally a plea for open-mindedness. His discussion touched upon democracy and the varied elements that compose democracy. He dealt also with science and with the painstaking accuracy of the scientist and of those with scientific tendencies. His address constituted mainly a plea for co-operation between those who have the ballot and those fact-finding agencies whose only aim is to supply accurate and trustworthy information.

EDUCATION, PROGRESSIVE AND OTHERWISE

A series of articles have appeared in the *Christian Science Monitor* in which J. Milnor Dorey, executive secretary of the Progressive Education Association, expounds the beliefs of the members of that Association. The introductory paragraphs of the second article, which was published on April 8, are as follows:

The progressives declare that the following, which is still the situation in the average classroom today, is not education: children treated as if they were blank pages waiting to be written upon—the impress of the teacher's own mind and authority; knowledge doled out as so many synthesized pellets; subject matter divided and subdivided into minutiae—so much arithmetic, so much grammar, so much Latin; bells ringing at stated intervals; teachers doing most of the talking; children sitting erect in stiff seats screwed to the floor; grades put down into books at the end of each recitation; groups taught the same things in the same way at the same time; classes promoted to the next grade *en masse*.

If this is not education, how do the progressives practice what they preach? Can they really put into practice and concrete results such abstractions? Do not such notions turn schools into absurd exhibitions of education run wild, children aimlessly thrashing about and getting nowhere, doing what they please? Among the progressives there are visionaries, extremists, and dilet-

tantes, just as among the conservatives there are single-track minds, prudes, and Brahmans. But we are not considering such of either class. There is a large body of clear, sane minds in both camps who, if they could once get together and pool their views and experiences, would transform our entire educational thought.

These paragraphs are quoted for the purpose of reinforcing with all possible emphasis the demand for joint action among all "clear, sane minds." One essential condition of such joint action is that all who would participate shall be intelligent about their colleagues. It is not intelligent to say that children in the "average" classroom today are "treated as if they were blank pages waiting to be written upon," etc. Whoever makes such assertions marks himself as unacquainted with the facts. He uses cant phrases which have long since been discarded both in psychology and in American classrooms.

The self-styled "progressives" are in a sorry way if the only progress they can claim for their cult is the abandonment of a psychological theory which dates from John Locke. If these same progressives ever expect to secure any recognition outside the circle of their own fraternity, they will have to give up the luxury of misrepresentation of those who do not share their snobbish disrespect for the public schools of the United States, where the active minds of several generations have learned the arts of democratic social life and vigorous thinking.

A COMMUNICATION FROM WILLIAM H. ALLEN

The following letter was received from the man responsible for the recently published survey of the New York City school system.

March 20, 1930

To the Editorial Committee
Elementary School Journal
University of Chicago, Chicago, Illinois

GENTLEMEN: Recently your journal printed disparaging references to the "co-operative and constructive school survey" which was made of the New York school system in 1924. Since your reference the report, long delayed through no fault of the surveyors, has been distributed. And just this last week Superintendent W. J. O'Shea's five-year summary has been distributed.

Will you please permit a quotation for your readers from Dr. O'Shea's comment upon the survey? On page 56 he says:

"In addition to the studies of the surveyors' reports which were made by the Special Survey Committee, the reports were studied carefully by many of

the superintendents, principals, and directors of our schools, who were selected on account of their knowledge of school work without regard to their personal opinions on educational topics, and gave their unbiased evaluation of the recommendations made by the surveyors. In some cases, the members of our staff agreed with the recommendations of the surveyors; in others, they differed radically. In all cases, the recommendations were considered fully. Some were put into practice while the survey was in progress. Others have been introduced since its conclusion.

"It is fair to say that no educational survey has been given more careful consideration by as large a number of qualified people as was given to this survey."

Perhaps you will be good enough also to let your readers be reminded that during the survey the whole force of over thirty thousand teachers, supervisors, and other workers participated in referendums as to high spots, needs, special high-school questionnaire sent out by the High School Teachers Association, teacher and principal listing of changes needed in the course of study, etc. The high-school principals held four meetings on their problems, etc.

Sincerely yours,
[*Signed*] WM. H. ALLEN
Former Chief Assistant on the Survey

CAMERAS FOR CHILDREN TWELVE YEARS OLD

The following announcement has been issued through the newspapers.

George Eastman, philanthropist and head of the Eastman Kodak Company, is to have a birthday party in May, but, instead of receiving presents, he will give away more than five hundred thousand cameras to children in the United States and Canada.

In collaboration with Mrs. Calvin Coolidge, Eastman has arranged a gigantic "birthday party," and he hopes to interest "hundreds of thousands more children in picture-taking" by giving them cameras. Any "guest" who can show his twelfth birthday comes during this year will be entitled to one of Eastman's gifts.

Eastman, who is a bachelor, has chosen this unique method of celebrating the fiftieth anniversary of his first photographic patent, which was granted April 13, 1880, when he was twenty-five years old.

The inventor's first patent was for making "photographic dry plates," which revolutionized the photographic industry and did away with the "dark tent," familiar trade-mark of the early photographers.

TENURE FOR TEACHERS

The *Bulletin of the Associated School Boards and Trustees of the State of New York* contains a discussion of the teacher-tenure law

which is now on the statute books of New York State. The full statement is as follows:

In accordance with the vote of the Association at its annual meeting, the State Department of Education, the New York State Teachers' Association, and the Council of City and Village Superintendents have been invited to appoint three representatives each to confer with a similar number from our Association upon a revision of the teacher-tenure law. The invitations have been accepted, and we believe that a mutually satisfactory solution of the problem will be found.

In this connection the following statement, which is taken from the annual report of Dr. Harlan H. Horner, executive secretary of the New York State Teachers' Association, indicates recognition by that organization of the desirability of some change in the present law.

"We shall have to admit one of these days that our present tenure law applicable to cities is not wholly satisfactory. Everybody who is willing to face the plain truth knows that there is a growing feeling among our boards of education and our city superintendents that our tenure law does more harm than good to the schools. As teachers, we cannot afford to shut our eyes to this situation. Surely we have had experience enough in this state to know that our boards of education and our superintendents are our friends. Surely we know that they can be trusted by and large to protect our interests.

"What, then, is the trouble? Just this. The tenure law in actual practice operates to keep in the profession both the fit and the unfit. Nothing short of flagrant immorality or criminal conduct will operate to remove an unfit teacher from the service. The immoralities of laziness, of indifference, of smug self-satisfaction, of lack of training and personal fitness, and of indisposition to keep professionally alive are not recognized in practice under our tenure law.

"It is for us as teachers to acknowledge this situation and to lend our aid to our boards of education and to our superintendents in eliminating the professionally unfit teacher from our ranks. Fortunately, the number of unfit teachers burdening the service is comparatively small, but it is our business to seek a professional level which will revolt against inflicting any unqualified teacher upon any group of children anywhere.

"A tenure law protecting children and public quite as much as it protects all qualified teachers will command universal respect and will endure. The New York State Teachers' Association has an opportunity to do a service to the state and to the nation by emphasizing the fact that security in a teaching position goes hand in hand with the unquestioned ability to teach. Already, it is a satisfaction to be able to say that enlightened public opinion in the state of New York, independent of statute, gives to the well-trained, alert, progressive, and capable teacher gratifying security of position and continuity of service."

It requires courage to question the right of teachers to permanent tenure. Teachers' associations in cities and states are politically powerful, and in recent years they have exerted themselves to secure the enactment of laws which make it almost impossible to remove a teacher even when there is cause. So complete has been the success of the campaign instituted by the teachers that superintendents and other school officers are reluctant to bring charges against even the most incompetent.

The reaction is at hand. When the executive secretary of a state teachers' association calls attention to the necessity of protecting the public as well as the teaching profession, it is a sign of a wholesome professional attitude. All teachers who are competent and desirous of raising educational standards will be ready to join in the formulation of proper laws which will take away from incompetents the immunity that they now enjoy under tenure laws drawn without due regard to the proper requirements to be met by members of the teaching profession.

CHILDREN'S PREFERENCES IN READING MATERIALS

The London *Times Educational Supplement* reports as follows an investigation of children's preferences in reading materials:

> The results of an inquiry into the question of what books children like best have been published for the Welsh National Council of the League of Nations Union by the Welsh Outlook Press, Newton. The inquiry was made by two Welsh schoolmasters, Mr. J. Lloyd Jones, headmaster of the Gladstoneroad Boys' School, Barry, and Mr. E. T. Owen, headmaster of the Penybont Boys' School, Bridgend. Their aim was to make a scheme of reading with world-wide interest for children, and also to find out to what extent pictures interested them and how far pictures influenced the preference for certain books.
>
> The first inquiry made was confined to two schools; the pamphlet now published is based on information from seventeen schools and on the opinions of 3,357 children from seven to fifteen. As a result of the first inquiry, the authors put on record the following conclusions.
>
> 1. In any scheme for introducing books of world-wide interest to children preference should be given to those imbued with the spirit of activity and adventure.
>
> 2. Boys of ten to eleven like short stories, with illustrations. It was also definitely established that a class of backward boys averaging twelve and one-half years of age read the same books as the average boy of ten years of age.

3. The so-called "classics"—Scott, Kingsley, Dickens, etc.—with which publishers of schoolbooks flood the market, make hardly any appeal to the average boy.

4. There is a gradual growth of the sensational fiction of the film order in the home library.

5. Not a single anthology of verse appears in the list.

6. There is a lack of variety, of number, and of suitability in books (within the limits of a boy's pocket) which describe scientific progress and discoveries.

These tentative conclusions have, we are told, been abundantly confirmed by the later inquiry.

Children from seven to eleven were asked to state their preference for four kinds of books, with the following result.

	Boys	Girls
Books about people	511	393
Books about places	370	171
Books about animals	603	381
Books about things	289	156
Total	1,773	1,101

The inquiry into the older children's preferences was based on their answers to the question, "What books have you read and enjoyed?" From their answers the following table was compiled.

	Boys	Girls
Picture books	68	86
Biographies	266	88
Travel tales	171	58
School tales	514	549
Adventure tales	3,639	487
Abbreviated classics	977	534
Original classics	586	28
Fairy tales	557	674
Film and sensational	233	19
Miscellaneous	1,007	657
Novels	32	43
Total	8,050	3,223

Under the heading "Miscellaneous" came an immense variety of religious books, scientific books, magazines, books relating to machinery, catalogues of farming implements, seed catalogues, etc. A headmaster sent the comment: "One cannot help noticing that the interest in animals declines after eleven, and boys' minds are diverted to things, machinery, their construction, etc. . . . . The supply of books of this character is very inadequate. They should contain

plenty of small illustrations—sketches—to indicate the working parts, but avoiding technical language."

A headmistress wrote: "I agree that poetry in general is not read by the average girl, although my little seven-, eight-, and nine-year-olds love reading poems by Rose Fyleman, Stella Mead, Enid Blyton, etc., but, once the child has tasted the pleasure of reading a story—a longer story than can be given in a narrative poem—then it is good-bye to reading poetry for enjoyment by the average girl."

MENTAL AGE VERSUS CHRONOLOGICAL AGE AS A BASIS FOR ADMISSION TO THE FIRST GRADE

The State Board of Education of Connecticut has added another innovation to the long list of wholesome educational reforms which it has inaugurated. Children are now being tested to determine their fitness for admission to the first grade. The plan which is gradually being put into operation is described as follows by Maud Keator, of the State Board of Education, in a statement published in *Mental Hygiene News*, which is issued by the Connecticut Society for Mental Hygiene, New Haven, Connecticut:

Perhaps there is no more important day in a child's life than the one on which he embarks upon the adventure of going to school. In Connecticut fifty-five years of compulsory attendance has resulted in a law which requires that every child, with minor exceptions, shall begin school not later than the age of seven years. Custom has reduced this entrance age to six years, and some communities have by vote lowered it to five years. Curiously enough, until recently no consideration was given to the most important phase of the whole matter, namely, "When is the child prepared to begin first grade?" As a result of the work of Dickson and others, we now know that on the mental side "no child below the mental age of six years is fully ready for first grade and that below the mental age of five and one-half years the chances that really standard first-grade work will be done are practically negligible." No definite statement is made concerning those of five years, but one seems fully justified in drawing the conclusion that for these children failure is fully assured. In other words, each child who is permitted to undertake first-grade work before a minimum age of five and one-half years is condemned to an experience of failure as the introduction to his school career, this initial experience probably to be followed by similar ones. As an almost inevitable result of having entered school too soon and of too rapid promotion, he is, in consequence, always beyond his depth. Small wonder that such children dislike school and all that it implies, that they leave at the earliest possible moment and forget its teachings as soon as they can. Scar tissue is weakened tissue. Every experience of failure leaves a lasting scar —a weak place in what should have been an armor of defense. The school is a

good place for those who are ready for it. It is a most unsuitable place for those who are not ready for it—a place where very real and positive damage is done to the personality because of the failures experienced.

With consideration for the total health of the whole child have come requests for assistance in determining which children should be encouraged to enter school and which should be persuaded to remain at home. For years there have been summer round-ups for the purpose of making a physical accounting. Gradually there has developed a demand for a similar service in the intellectual field, to which the State Board of Education, through its Division of Special Education and Standards, is responding on request of local boards of education and superintendents. This service will now be extended throughout the summer of 1930, this being the first time that it has been possible to offer a summer service. Requests will be filed in the order in which they are received and will be given attention in so far as the personnel of the Division permits.

Since the reliability of the findings depends upon the accuracy of the date of birth, it is evident that each child to be tested should be provided with a birth certificate. During the period of the test, which for children of this age requires about thirty minutes, the examiner and the child must remain absolutely undisturbed; hence a quiet room, free from interruption, must be at the disposal of each examiner. Transportation must be provided locally, care being taken that each examiner is kept fully occupied but that no child is kept waiting for any considerable period of time. Usually it will be possible for an examiner to test ten or twelve children a day. It should be possible to begin work in June or in a few instances even earlier, and examinations made as late as August 23 can still be reported to the superintendent early enough to be useful on the opening day of school.

The advantages of making these tests before rather than after school begins are so numerous and obvious as to need little mention. The person most benefited is the child, who is spared the possible humiliation of having to withdraw from school during the early fall after an ill-advised start has been made. Thus another error is avoided and another scar prevented.

A CENTURY AGO IN THE SCHOOLS OF CINCINNATI

The following statement was published in the *School Index*, the official publication of the school system of Cincinnati, Ohio.

Records held by the Board of Education begin with the year 1829. Under this date are found minutes of the Trustees and Visitors of Common Schools of Cincinnati. They are in an old volume covering the years 1829 through 1839 written in a regular hand in ink which still retains its blackness and upon paper only slightly yellowed because of age. . . . .

Under date of July 7, 1829, we read the following. "Mr. Lambert Smith, having made application for the appointment of teacher and having offered the requisite certificates and testimonials, the said Smith was appointed to teach for any time not exceeding one year for the compensation of $25 per month."

Mr. Jennings, we read, under date of August 3, agreed to teach a school in the fifth ward for one quarter for the compensation of $75. John Hitton, however, it is disclosed, received $100 per quarter in the fourth ward, while Mr. Graves, to assist Lambert Smith, received $20 a month.

On August 3 it was resolved "that female children between four and twelve years of age and boys between the ages of four and seven years be allowed to attend the female schools in each district and that no scholar, either male or female, under the age of five years shall be allowed to attend the male schools."

Picket's Spelling Book, Picket's Mentor for First Classes in Reading, Murray's Abridged Grammar, and *Ruter's Arithmetick* were among the schoolbooks recommended for the common schools.

On February 8, 1830, were adopted certain rules to be observed in the common schools:

1. The scholars must all keep their hands, faces, and clothes clean.
4. They must make no unnecessary noise.
7. They must not talk or whisper to each other.
9. They must always speak the truth.
10. They must not quarrel or injure each other.
12. They must be polite and respectful in their conduct to everyone.

One hundred copies of these rules were printed for use of the common schools.

In the minutes of February 15 we learn that the Reverend Samuel Johnson, with the assistance of Mr. Vanhagen, taught a school in the first ward, the registration being 151 and the "whole attendance" 125. The total registration for that quarter was 2,103; the whole number attending daily, 1,558. There were twenty-two teachers, each of whom had an average of seventy pupils attending daily.

Teachers apparently were paid whatever price it was necessary to pay them but no more. Thus, we find that men received either $25 or $33.33 per month. Lucretia Matthews taught from the fifth of February to the eighth of March, 1830, both days inclusive, for $18. Sophronia Gilman received $18 per month. Although the record is not wholly clear, it appears that other women received but $14 per month.

The gentlemen intrusted with the direction of the schools had a high vision of their task, as may be seen by the final paragraph in their report to the City Council under date of February 8, 1830:

"The Trustees and Visitors cannot close this report without congratulating the friends of general education and self-government upon the success which promises to attend the efforts of the patriotic and liberal citizens of Our City to establish, and carry into full operation, that system of free schools which long experience in some of our sister states has proved to be so economical and efficient, which originated among a free people, which is peculiar to our own happy country, and which is so essential to the maintenance and protection of our liberties."

TRAINING ELEMENTARY-SCHOOL TEACHERS IN SWEDEN

F. C. BORGESON
New York University

The purpose of the normal schools of Sweden is to develop and prepare teachers for the kingdom's elementary schools (folk schools) and also to lay the foundations for improving teachers for the higher elementary schools. There are fifteen normal schools with four-year courses designed to prepare teachers for the regular elementary schools. Six of these schools are for women, eight for men, and one for both men and women, the last being located in the far North, where the sparsely populated area makes a joint school imperative.

The elementary school is divided into two parts: the first two years comprise the primary school; and the remaining four (in some instances five) years, the elementary school proper. The elementary schools are classified into various types according to the grades of teachers employed and the number of teachers in each school. Class A schools, for example, have at least one teacher for each grade, and each grade comprises not less than one instructional unit. Class A schools, therefore, have at least two primary-school teachers and four elementary-school teachers. In contrast, Class D schools have but one teacher for all grades.

Teachers in the primary school receive their training in primary normal schools, of which there are twenty-eight in the country. Of these, three are private schools; four are owned and operated by the state; and the remaining twenty-one are controlled and supported by the provinces. In most instances the twenty-five provinces have their own primary normal schools. Because of the inability of the northern provinces to support such schools, the state has established primary normal schools in that area. These schools have two-year courses. Often it is necessary for a community to turn over to a graduate of a primary normal school part or all of the work of the regular elementary school.

In addition to the four-year course the regular normal school provides a one-year course for those having graduated from secondary schools. Such graduates are known as "students," even though they never enter the university. In 1922 this group made up between 6 and 7 per cent of the total number of normal-school and primary normal school students; in 1924, from 4 to 5 per cent; in 1927, approximately 8 per cent. In 1929 there was an effort to abolish the one-year course. The abolishment of this course would have absorbed about 20 per cent of the oversupply of qualified elementary-school teachers at that time.

The elementary-school law of 1921 sets up the following requirements for fully trained elementary-school teachers.

1. They must be members of the Swedish State Church and must be known for their creditable conduct and also for that type of character and temperament needed for leading and directing children.
2. They must be free from sickness and physical defects that would make them unsuitable as teachers.
3. They must have passed the elementary-school teacher's examination (*folkskollärareexamen*) as prescribed by law.
4. They must be twenty-one years of age.

Temporary teachers must fulfil the first three of the above requirements. Teachers of the primary grades must fulfil the same requirements as teachers of the elementary school proper except that they must have passed the examinations for primary-school teachers as prescribed by law.

THE NORMAL SCHOOL

The organization of the normal school is very simple. It is an enterprise of the state even more than is the state secondary school in that the state not only pays for the current expenses but also provides the buildings and all other capital outlay. The community in which a normal school is located has nothing whatever to do with the school either as to control or as to support. In 1923–24 the state expended on the fifteen normal schools 5,000,000 crowns,[1] or approximately $1,340,000. In accordance with the practice common in nearly all European countries, there is no charge for tuition. In fact, 75 per cent of the students receive scholarships of varying amounts.

[1] A crown equals 26.8 cents in American currency.

The headmaster of the normal school, known as the rector, is appointed by the king on recommendation of the Royal Central Board of Education. There is no local board. The rector is all powerful in the school, as he is responsible directly to the Royal Board. Each school has its own state inspector, usually the dean of the cathedral in the province, who makes a formal inspection. The inspection consists in about one visit each semester, usually at the time of some special occasion when the dean is expected to give a talk.

THE TEACHING STAFF

The members of the normal-school faculty are appointed by the Royal Central Board of Education on recommendation of the rector and after due investigation of the candidates by the members of the Royal Board. The qualifications of the teachers are approximately the same as those of secondary-school teachers. They must be university graduates who have passed the *ämbetsexamen* in the faculty of philosophy. The teacher of higher grade in the normal school must have passed the *licentiatexamen*. The teacher of higher grade, *lector*, need not complete the requirements for the Doctor's degree although many do so. The doctorate is attained by successfully defending and publishing a thesis in the subject field in which the candidate wrote his *licentiatexamen*. The *licentiatexamen* is usually taken from two to four years after the *ämbetsexamen*, which is taken after four years of study in the university.

The university training is almost entirely academic. All those who take the *ämbetsexamen* must take a course in education in the last year. The course in education is a four-month course and consists of history of education, principles of education, and some psychology. This course is most meager and inadequate; in fact, it is looked upon as a farce by most of the students. One capable teacher in the public secondary school in Upsala, who is also a writer of textbooks, declared that he had not attended the class except on the last three days. By studying a friend's notes, he passed the examination. As passing the written examination is the only requirement, many students do not attend a large share of the lectures.

Upon completion of his university training, the candidate for a teaching position in a normal school devotes one year without pay to

practice teaching in a normal school under the direction of the rector. In the beginning he teaches one subject, but later he may be practicing in two or more subjects. He must specialize in not less than two, nor more than four, subjects. While this year's work is on the whole poorly organized, the prospective normal-school teacher does have excellent and practical contacts with the principal and the teachers of the normal school. Two of the superior normal schools are set aside for this work.

Thus, the instructor of teachers for the elementary school knows practically nothing about the elementary school directly, since he has attended the secondary school and university and has had no experience in teaching in the elementary school. The theory is that teaching is teaching wherever it is carried on and that the academic master is needed in teaching teachers. It is assumed that what it is necessary to know about the elementary school itself may easily be learned from books and through observation. Every normal school has its own training school. Here the academic master guides the normal-school students in their practice teaching, while he himself in all probability has never taught a class in an elementary school.

The rector of each normal school must teach from ten to fourteen hours a week in addition to his administrative duties. The *lectors* teach from twenty to twenty-two hours a week. The teachers in the craft subjects teach not more than thirty hours a week. The average schedule for teachers in the training school is twenty-six hours a week.

The members of the faculty of the normal school have little social contact with the students, although they have more than do the secondary-school teachers of the country. The teachers and students meet in class, but otherwise they have little in common. Faculty members assume only the responsibilities in extra-curriculum activities which are assigned to them in their appointments and for which they are paid. Many teachers, as in the secondary schools, become academic experts rather than educators.

The annual salaries for the regular teachers range from a minimum of 4,300 to 5,800 crowns to a maximum of 5,600 to 6,600 crowns, plus an addition to the regular salary which is determined by the Cost of Living Index of the Department of Labor. The year 1913 is used as

a basis for the index. For the last seven years this index has been around 175. A large percentage of the teachers give private lessons to supplement their salaries. The Royal Board controls the number of hours a week which a teacher may spend in tutoring. The "Code of Ethics of the National Education Association of the United States," adopted in July, 1929, recognizes the evils of a system which compels teachers to tutor in order to increase their incomes.[1]

Before a teacher receives a permanent appointment on the faculty of a normal school, he must have completed two years of successful teaching. His appointment as a regular teacher is a life-appointment, which has a retirement pension at the age of sixty-five. The pension for the majority of civil servants amounts to approximately 70 per cent of the highest salary received.

THE STUDENT BODY

There has been a great oversupply of teachers in the elementary schools in recent years, especially since the World War. This surplus is now coming under control because the number of students who are allowed to enter the normal schools is being limited. A large percentage of those who are refused admission meet the scholastic standards of the entrance examinations. In 1927 there were 1,389 persons who sought admission into the state normal schools (just half the number seeking admission in 1922); only 408, or 29.4 per cent, were admitted. The Royal Board determines the number of students who shall be admitted into the entering class of each normal school. In the normal schools which have double-section classes the number of students in the entering classes has been reduced from sixty to twenty in the last three years, and in the other schools the number of students in the entering classes has been reduced from thirty to twenty. By this method it was expected that normalcy in teacher supply and demand would be reached by 1929. As a part of the program of reduction, two private normal schools were abolished in 1927. The desired balance between teacher supply and demand has apparently not been attained, as the closing of four normal schools, which were selected by a special state commission, was still being advocated in August, 1929, by *Folkskolans Vän*, the official organ of

[1] *Proceedings of the National Education Association*, LXVII (1929), 179–81.

the associated elementary-school teachers. Parliament postponed action on the definite proposal of the commission to close the four normal schools in September, 1929. In 1926 the number of qualified elementary-school teachers exceeded the number of teaching positions by four hundred. This condition is in part indicative of the desirable position held by the elementary-school teacher in the average Swedish community.[1]

There is no provision for training prospective elementary-school teachers during the interval between their completion of the elementary school at the age of thirteen and their entrance into the normal school at the age of eighteen in the case of girls or seventeen in the case of boys. The normal school gives an entrance examination, which purports to test the knowledge secured in the elementary school as well as that secured through following the limited program of the part-time continuation school for children from thirteen to fifteen years of age. The examination, which is partly written and partly oral, covers drawing, geography, handwriting, history, mathematics (including geometry), natural science, religion, singing, sloyd, and Swedish. However, because of the large number of candidates, the standards of the examination have been raised to approximately the level of the *realskola* examination, which is a secondary-school examination given at the completion of six years of work in the *realskola*. This school follows the first three or four years of the elementary school. (The 1927 reform made it possible for the *realexamen* to be reached either through attendance at a five-year *realskola* following the first four years of the elementary school or through four years in the *realskola* after five or six years in the elementary school, depending on the ratings of the schools concerned. Obviously, the present period of transition explains the current state of confusion in Swedish educational reorganization.) The *realskola* examination may also be taken at the completion of the four-year communal middle school, which follows the six-year elementary school.[2]

[1] For a further statement of the position of the teacher in the community, see Frithiof Carl Borgeson, *The Administration of Elementary and Secondary Education in Sweden*, pp. 33–36, 156–65, 217–19. Teachers College Contributions to Education, No. 278. New York: Teachers College, Columbia University, 1927.

[2] The relation of the elementary-school system to the secondary-school system and the extent to which they overlap are shown in graphic form on page 7 of the writer's book, *The Administration of Elementary and Secondary Education in Sweden.*

A candidate for admission to the normal school is not required to have any training beyond that offered by the elementary school and the continuation school; but, in order to stand high in the list of those taking the entrance examination, he may do one of three things: first, he may enter the communal middle school after completing the elementary school; second, earlier in his school life he may shift into the secondary school leading to the *realskola* examination; or, third, he may attend a higher elementary school. Any one of these courses gives the candidate a better chance of standing high in the normal-school entrance examination than does out-of-school experience. However, many of those who succeed in entering the normal school have had no schooling beyond the continuation school. For example, the writer discussed certain problems of teaching with six students of the Lund Normal School. All six students had been out of school for some time before entering the normal school. One was a carpenter by trade, and he could have made more money in that occupation if material gain had been his chief ambition. Another had worked on the railroad. A third had attended a part-time continuation school and later, while working in a metal shop, had attended the apprentice and trade schools.

School men of Sweden defend this situation on the ground that the future elementary-school teacher should live with the people whom he is to teach in order that he may understand them and be able to serve them as a teacher. This argument is advanced by several school men of various stations. They feel that only by undergoing the life-experiences of the common people can a teacher understand the problems of the people whom he is to serve. The head of one of the leading normal schools in Sweden said to the writer, "Boys between the ages of thirteen and eighteen can use their time most profitably by learning the heart and pulse of the common people." Swedish educators contend that boys and girls with this contact make better teachers than do those with only book knowledge and experience.

Recently the writer heard the dean of one of the outstanding schools of education in the United States voice the opinion—often expressed by thinking educators—that American school teachers are too institutionalized. They pass through the elementary and second-

ary schools as pupils and immediately pass on into a teacher-training institution, from which they return directly into the school where they are to teach. They have missed contact with life as it exists out of school. How, then, can they be expected to train youth for the life of which they themselves know so little? Either because of foresight or because of economic pressure, those responsible for the Swedish plan did for a time meet the student's need for contacts with life by omitting the concentrated form of experience provided in secondary schools and expecting the candidate to spend that time "out in life." However, economic and social forces have gradually worked against this end. The use to which this period of time is now being put by candidates is indicated by the fact that, of the students in state normal schools during the six years from 1922 to 1927, approximately 65 per cent had attended some type of secondary school—higher secondary school, peoples' high school, public or private secondary school, communal middle school, or girls' finishing school. Obviously, this schooling stands the candidate in better stead at the time of the entrance examination than do contacts with out-of-school life.

The basis of admission to teacher-training institutions and the lack of a definite plan of training for a period of two to five years immediately preceding entrance into the normal school are decidedly different from American practice and may appear to be causes for criticism. There seem to be no sound reasons why Swedish and American practice need approximate each other. Because of our wealth it is not necessary that our teacher-training institutions be administered as economically as are those in Sweden. This economic advantage implies that our institutions for training teachers can provide education beyond that of the elementary school and the high school which is designed primarily for prospective teachers but which, let us hope, is not time lost for the large number who receive the training but never become teachers. America believes in spending the money necessary to train large numbers. After the period of training is completed, those graduates who are needed and desired for teaching positions are selected, and the rest are turned away to find their life-work elsewhere. Sweden says she cannot afford such a wasteful procedure. Though the basis of selection may be poor, selec-

tions are made before, not after, the period of training. Thus, all those who are trained for it enter the teaching profession.

THE NORMAL-SCHOOL CURRICULUM

Every normal school has the privilege, within narrow limits, of setting up its own time allotment for the subjects in the curriculum

TABLE I

NUMBER OF CREDIT HOURS A WEEK ALLOTTED TO EACH SUBJECT IN THE FOUR-YEAR COURSE FOR WOMEN IN SWEDISH NORMAL SCHOOLS

	First Year	Second Year	Third Year	Fourth Year	Total
Academic subjects:					
Religion	2	4	3	3	12
Swedish	5	3	3	3	14
Mathematics	4	4	2	2	12
History	2	2	2	2	8
Geography	2	2	2	0	6
Biology and hygiene	3	2	3	0	8
Physics and chemistry	3	1	2	2	8
Economics	0	1	0	2	3
German or English	3	2	1	0	6
Psychology and education	0	2	2	4	8
Total	24	23	20	18	85
Special subjects:					
Drawing	3	2	2	1	8
Music	2	2	2	2	8
Horticulture	0	0.5	3	1.5	5
Household arts	6	6	2	0	14
Gymnastics with play and sports	4	4	6	6	20
Total	15	14.5	15	10.5	55
Practice teaching	0	1	3	4	8
Total number of hours a week	39	38.5	38	32.5	148

prescribed by law. The program of each school must be approved by the Royal Board. In actual practice there is always some deviation from the model time allotment set up in the statutes. Table I shows the time allotment made by legal statute for women in the regular four-year normal-school course. The course of study for men is the same as that for women except that manual training is given in place of household arts for four hours in the first two years and for two

hours in the third year and that the men have six hours a week of gymnastics, games, and sports in all four years.

One credit hour in practice teaching is equivalent to about four clock hours of practice teaching each week for one year. In addition to the subjects in the regular schedule, the following are provided for: chorus singing, one hour a week; library science, a short course given by the librarian; play and sports, in general two recitation periods one afternoon each week in all four years; natural sciences (individual laboratory work under teacher guidance), two hours a week; drawing, two hours a week; handwriting, average of one hour a week for those who need it.

TABLE II

NUMBER OF CREDIT HOURS A WEEK ALLOTTED TO EACH SUBJECT IN THE ONE-YEAR COURSE FOR WOMEN IN SWEDISH NORMAL SCHOOLS

Subject	Number of Hours	Subject	Number of Hours
Religion	2	Music	2
Swedish	2	Horticulture	3
Biology and hygiene	1	Gymnastics with play and sports	4
Economics	2	Practice teaching	9
Psychology and education	5		
Drawing	2	Total	32

The time allotment proposed by statute for the one-year course in the normal school for "students" (secondary-school graduates) is given in Table II. "Students" must be between eighteen and twenty-eight years of age for admission to this course. The general opinion seems to be that the "students," even though possessing higher education, do not make as good teachers as do those who have passed through the regular four-year course. Table II shows a total of thirty-two hours a week allotted to the curriculum for women. Men are given a total of thirty-four hours, as they have six hours a week in gymnastics with play and sports. In the case of the one-year "students," the following courses are provided outside the time schedule: chorus singing, library science, and play and sports, which are given under the direction of teachers or the school librarian. "Students" from secondary schools who have not had chemistry must take thirty hours in chemistry. The rector, with the approval

of the teachers and the school doctor, may demand five hours a week of manual training for the men and seven hours a week of household arts for the women.

Although the subjects taught are largely prescribed by law, the teacher has almost total freedom in the classroom to treat the subjects as he sees fit. The elementary-school teacher is given a general training, including all the subjects to be taught in the elementary school, some psychology and education, and a well-organized program of supervised practice teaching. The training of the secondary-school teacher, while on a much higher academic level, includes only two to four subjects and in the last year or two is limited to one subject, with almost no psychology or education, and is followed by a year of practice teaching.

The final examination at the normal school is chiefly a formality and was designed as such by the legislators. The prospect of a rigorous examination at the end of the course would unsettle the student and be a hindrance to his practice teaching in the training school. The real test is at the time of entrance, as only those ranking among the first thirty are generally admitted.

It must be kept in mind that, while the training of the elementary-school teacher is not given until between the ages of seventeen and twenty-one and while the teacher cannot be regularly appointed until twenty-one years of age, the total training which the teacher of twenty-one years has had is very limited as compared with that of the Swedish secondary-school teacher. The latter is a university graduate and is not regularly appointed until about the age of thirty-six.

PRACTICE TEACHING

Every normal school has a training school, usually in the same building. Often some of the teachers, especially those instructing in craft subjects, teach in both the normal school and the training school. The subject teachers in the normal school have charge of the practice teaching in their respective subjects. Each normal-school class is usually divided into four to six groups of five students each for the practice teaching. While one of the group teaches, the others observe and, with the professor in charge, give criticisms of the lesson. There is usually a brief period for criticism at the close of the period of three to six weeks devoted to practice teaching in a given

subject. Each student is expected to have private conferences with regard to practice teaching with his professor in the subject concerned. The regular classroom teacher has very little to do with the practice teaching and in many instances is not present during the practice-teaching period.

The rector, with the faculty, determines the schedule for practice teaching, which varies from year to year. For example, in the second year in the Lund Normal School practice teaching takes place during the last half of the first semester and the first half of the second. The students generally begin by observing all day for one week in several classes of the training school. In the second year they have practice teaching in arithmetic, natural science, and Swedish; in the third year, arithmetic, elementary home economics, geography, horticulture, music, sloyd, and Swedish; and in the fourth year, arithmetic, drawing, history, horticulture, music, natural science, religion, sloyd, and Swedish.

In addition to the practice teaching the students are given courses in special methods. These courses are taught by the professors in charge of the practice teaching in the respective subjects. The rector gives a few lectures on school management. For the past five years in the training school of the Lund Normal School there has been a special class consisting of four grades which provides practice teaching for those going into rural schools. This class exists only for the week or weeks needed for practice teaching. Each Senior teaches this class for one full day and observes on the remaining four or five days during which his group has charge of the class.

In the Lund Normal School the Seniors practice an average of thirty-two hours; the Juniors, seventeen hours; and the Sophomores, four hours. Of the thirty-two hours spent in practice teaching in the Senior year, twenty-one hours are in various subjects, six hours in a series in one subject, and five hours in the ungraded class mentioned. Many feel that not enough time is devoted to practice teaching and recommend that it should be required in all four years.

TRAINING IN SERVICE

The more or less universal attitude in Sweden has been that a teacher's training ends in the normal school. The type of professional improvement which in America is characterized by extension

courses, association meetings, and the like is just beginning in Sweden. The amount of study in summer schools is negligible except in a few special subjects, such as elementary physics, foreign languages, music, and sloyd.

The Commission on School Reorganization of 1918 has effected many far-reaching reforms. There exists in Sweden, as in many European countries, an unfortunate professional and social gulf between elementary-school teachers and secondary-school teachers. Partly in an effort to overcome this handicap and partly in an effort to open avenues for further professional improvement, the Commission has urged that normal-school graduates be admitted to the university. When this reform is realized, it will be a decided step forward provided that the university widens the scope of its offerings.

THE PRIMARY NORMAL SCHOOL

Much of what has been said with regard to the age of entrance, qualifications for entrance, course of study, practice teaching, etc., in the case of the normal school applies to the primary normal school. The latter, however, is a two-year school, and the teachers are not as well qualified as are those in the normal school. The graduates of the primary normal school are prepared to teach in only the first two grades of the elementary school. The students are all women.

Local control is exercised through a board of four members appointed by the provincial council. The province is responsible for financing the school but receives some aid from the state. As in the case of the normal school, there is no charge for tuition in the primary normal school. The Royal Central Board of Education chooses the rector for periods of five years. The teachers are chosen for life by the rector and the local board from a list of candidates approved by the Royal Board.

USE OF THE DICTIONARY

EDWARD WILLIAM DOLCH
University of Illinois

In which grade in the elementary school should each pupil first be provided with a dictionary? The writer was interested in this question because of its direct bearing on the vocabulary which can or should be used in textbooks for the middle grades. Since school officers must make the decision, it was decided to ask these officers their opinion as to the grade in which the use of the dictionary should begin. A letter was sent to 780 superintendents of schools in cities with populations of approximately 10,000 or more. The superintendents were asked (1) to state whether they believe that dictionaries should be put into the hands of pupils in Grade IV, in Grade V, or in Grade VI, (2) to give their reasons for their opinions, and (3) to give the approximate percentages of the children in each of these grades in their school systems who are provided with dictionaries.

Four hundred and ninety-six superintendents and supervisors answered the letter. Their responses to the first question are summarized in Table I. Almost two-thirds of those who replied believe

TABLE I

DISTRIBUTION OF 496 SUPERINTENDENTS OF SCHOOLS AND SUPERVISORS ACCORDING TO THEIR OPINIONS AS TO THE GRADE IN WHICH PUPILS SHOULD BE PROVIDED WITH DICTIONARIES

Grade	Number	Per Cent
IV	310	62.5
V	159	32.1
VI	24	4.8
VII	3	0.6
Total	496	100.0

that pupils should be provided with dictionaries in Grade IV; a little less than one-third believe that Grade V is the proper grade; and a few indicated Grades VI and VII.

Why is there this divergence of opinion? This question is answered in part by the reasons given by the superintendents for their opinions. Table II shows the reasons given by 272 superintendents and supervisors who indicated Grade IV as their choice. The nine-

TABLE II

REASONS GIVEN BY 272 SUPERINTENDENTS OF SCHOOLS AND SUPERVISORS FOR BELIEVING THAT PUPILS IN GRADE IV SHOULD BE PROVIDED WITH DICTIONARIES

Reason	Frequency of Mention
To enlarge vocabulary	104
To establish dictionary habit	71
To provide a means of self-help in independent reading	60
Pupils in Grade IV are able to use the dictionary successfully	38
To give aid in pronunciation	34
Intelligent use of the dictionary should be taught as soon as possible	27
Teaching children independent research work cannot be undertaken too early	24
To give help in spelling	24
Dictionary is needed in preparing other lessons	21
To develop skill in the use of the dictionary	15
Reason is self-evident	12
To develop habits of accurate study	7
To teach children diacritical marking	4
To begin in Grade IV to prepare for Grade V	4
To reduce work of the teacher	3
It is the custom to supply dictionaries in Grade IV	3
Teachers cannot define accurately words found in reading lessons	2
Children gain knowledge of derivations from foreign languages	2
Children enjoy its use	2

teen reasons are arranged in the order of frequency of mention, as this arrangement perhaps indicates the order of importance of the reasons in the minds of those who reported. There is some doubt as to the meaning of some of the phrases used. For example, does "To enlarge vocabulary" mean that there should be systematic exercises in looking up words or that words should be looked up only incidentally in connection with other types of school work? Does "dictionary habit" mean the habit of looking up all strange words? Similar

questions suggest themselves with regard to other items. It will also be noticed that some of the reasons are related to others. The purpose of enlarging the vocabulary, which stands far above the other reasons, may be related to the third reason, "To provide a means of self-help in independent reading." The teaching of the "intelligent use of the dictionary" may be related to the development of "skill in the use of the dictionary" and to the establishment of the "dictionary habit." The small number of times that some reasons received mention causes surprise. The use of the dictionary in providing "a means of self-help in independent reading," which was mentioned sixty times, and "in preparing other lessons," which was mentioned twenty-one times, would seem to be the most practical arguments for its purchase for use in any grade. "To give aid in pronunciation," always an important reason for using a dictionary, was mentioned only thirty-four times. "To give help in spelling" received mention only twenty-four times. Notice must be taken of the frank statement of three superintendents that they supply dictionaries in Grade IV because it is the custom to do so. Perhaps some of the thirty-eight superintendents and supervisors who gave no reasons failed to do so because they had no reason except custom. In this list of nineteen reasons there may be some tendency to explain or justify a custom. In fact, several superintendents stated that they begin the use of the dictionary in Grade IV because they know no good reasons for not doing so. The force of tradition is powerful in education, as elsewhere; if it is operative here, that fact should be known. This question deserves further investigation.

A considerable number of the replies advocating the use of the dictionary in Grade IV clearly indicated that there had been much thought, study, and experiment on this question before this grade was decided on. Even more discussion of the problem was shown in the replies of those who favor beginning the use of the dictionary in Grade V. The reasons given by superintendents and supervisors for *not* using the dictionary in Grade IV are given in Table III. Comparison of Tables II and III reveals a direct clash of opinion as to whether pupils in Grade IV can use the dictionary profitably. Table II shows that thirty-eight superintendents and supervisors stated that "pupils in Grade IV are able to use the dictionary successfully."

On the other hand, Table III shows that the same number of superintendents and supervisors stated that "pupils in Grade IV are too young to use the dictionary." This is undoubtedly the key point which must be decided in order to determine the grade in which dictionary study shall be started. If pupils in Grade IV can use the dictionary profitably, curriculum-makers and school officers will undoubtedly seek to provide dictionaries for children in that grade. If

TABLE III

REASONS GIVEN BY FIFTY-EIGHT SUPERINTENDENTS OF SCHOOLS AND SUPERVISORS FOR BELIEVING THAT PUPILS IN GRADE IV SHOULD NOT BE PROVIDED WITH DICTIONARIES

Reason	Frequency of Mention
Pupils in Grade IV too young to use the dictionary	38
Dictionary first needed in Grade V	10
Dictionary unsuited for use in Grade IV	9
Dictionaries in readers better for pupils in Grade IV	7
Pupils in Grade IV have not received instruction in using reference books	4
Time in Grade IV needed for reading, etc.	4
Attempts to use the dictionary waste too much time in Grade IV	3
Alphabet not mastered in sequence below Grade V	2
Teachers can give definitions better suited to pupils in lower grades	1
No time for instruction in use of dictionary provided in curriculum of Grade IV	1

the pupils cannot use them profitably, certainly the books should not be provided nor required.

The comments and suggestions given by the 496 superintendents and supervisors show that an answer to the question "In what grade can children use the dictionary successfully?" requires consideration of four phases of the problem. (1) The particular dictionary which is being put into use is important. Different books vary widely in the difficulty of the vocabulary, the difficulty of the definitions, etc., a fact mentioned in many of the replies. Some superintendents said that all dictionaries are too difficult for Grade IV, but this is a question of opinion. At any rate, when "the dictionary" is spoken of, a particular book should be specified. (2) The phrase "use the dic-

tionary" must be defined. Various uses were mentioned in the replies, such as giving aid in spelling, in determining pronunciations, in finding synonyms, in differentiating between meanings, and in studying prefixes, suffixes, and derivations. Looking up abstract words found in a reader is a different problem from looking up technical words found in a textbook in geography. Some of the uses mentioned can be successfully carried out by fourth-grade pupils, while others cannot. Therefore, the term "use" must be defined. (3) If possible, the term "successful use" must be defined. To define this term is difficult because much depends on the judgment of the teacher or other observer. It might be well to devise tests for particular uses of the dictionary and to set standards for various grades by which "successful use" can be measured. (4) Differences in the preparation and the ability of the children must be taken into account. Many studies have shown that Grade IV in some systems is comparable to Grade V in less favored localities. The returns in this study seem to show a tendency for schools in smaller towns and those in sections of the country which are educationally backward to begin the use of the dictionary in a higher grade. The delay may be caused by financial difficulty and also by poor preparation of the children.

Many superintendents and supervisors reported that systematic lessons in the handling of the dictionary are given in Grade IV. The superintendents of York, Pennsylvania, and San Francisco, California, sent copies of the mimeographed directions and exercises for this training in use in their schools. Some systems begin this preparation below Grade IV, and several statements were made that the "picture dictionaries" used in first-grade reading prepare for the later use of dictionaries. In one system the second-grade teachers are preparing a "picture dictionary" for use in Grade II.

The answers to the question in the letter to the superintendents which asked what percentage of the pupils in Grade IV, V, and VI are provided with dictionaries showed that here the influence of cost, either to the school board or to the individual child, takes effect. Table IV shows the percentages of pupils in Grades IV, V, and VI in the 496 systems who are provided with dictionaries. The large number of systems in which 100 per cent of the pupils are provided with

dictionaries is partly accounted for by the custom of providing free textbooks. Some superintendents in the many systems in which pupils are required to buy their own books may have assumed that all are provided with dictionaries. Many superintendents reported percentages of less than 100 even though the purchase of a dictionary is

TABLE IV

DISTRIBUTION OF 496 SCHOOL SYSTEMS ACCORDING TO THE PERCENTAGE OF PUPILS IN GRADES IV, V, AND VI WHO ARE PROVIDED WITH DICTIONARIES

PERCENTAGE OF PUPILS	NUMBER OF SCHOOL SYSTEMS		
	Grade IV	Grade V	Grade VI
100	170	281	314
90–99	23	32	38
80–89	8	10	23
70–79	18	32	18
60–69	3	12	10
50–59	50	39	31
40–49	5	5	6
30–39	6	10	7
20–29	23	19	10
10–19	11	6	6
1–9	7	3	1
0	8	2	4
"A few in the room"	18	16	16
Not stated*	146	29	12
Total	496	496	496

* Superintendents and supervisors who believe that the use of the dictionary should be begun in Grade V or VI did not usually state whether any are used in lower grades.

"required." It will be noted that, although Table I shows that almost two-thirds of the superintendents believe that pupils in Grade IV should have dictionaries, in actual practice only about one-half the pupils in this grade have them. The pupils in Grades V and VI, however, are well taken care of.

These data are presented in the hope that they may stimulate further thought and investigation in this field—one of the important fields with which the elementary school is concerned.

THE EFFECT OF USING THE LONG-DIVISION FORM IN TEACHING DIVISION BY ONE-DIGIT NUMBERS

LENORE JOHN
Laboratory Schools, University of Chicago

It is commonly acknowledged that the process of division, particularly division by numbers of more than one digit, is the most difficult of the four fundamental operations in arithmetic. The complexity of the process easily accounts for its difficulty. This article reports the results of an attempt to reduce the difficulties encountered by pupils in learning the process of division.

The common procedure in teaching division is to teach first what is called "short division"; that is, the pupils are taught to divide by one-digit numbers, writing only the figures in the quotient and performing the necessary multiplication and subtraction mentally. Later they are taught long division, that is, dividing by a number of at least two digits by following a complex system of estimating the first digit in the quotient, multiplying, writing the product, subtracting, annexing to the remainder the next digit from the dividend, and so on. When this teaching procedure is followed, the pupil learning short division is confronted with the difficulty of understanding a new and involved process, which is complicated by the fact that most of the numbers with which the pupil deals are invisible. When he undertakes long division, he must deal with the new difficulties presented by the estimation of the figures in the quotient, and at the same time he must learn to use a new form of solution, which may easily serve to conceal from him, for a time at least, the fact that the process is essentially the same as that with which he is already familiar under the name "short division." To lessen these difficulties, it has been proposed that only the long-division form of solution be taught, all division, regardless of the number of digits in the divisor, being performed by means of that form. In order to determine the effectiveness of this procedure, two groups of fifth-grade pupils in the University Elementary School of the University of Chicago were

taught division by the two procedures outlined, and the results secured were compared. The experiment was conducted during the school year 1927–28.

METHOD OF EXPERIMENT

The courses in arithmetic in this school are organized in teaching units, and the technique used is the systematic procedure outlined by Morrison.[1] Both of the experimental groups were taught by the same teacher; they devoted the same number of hours a week to arithmetic and used the same assimilative material. Both groups were taught to divide by one-digit numbers before they were taught to divide by two-digit numbers. Group 1 was taught to divide by one-digit numbers by means of the usual short-division method, only the figures in the quotient being written. Group 2 was taught to divide by one-digit numbers by means of the usual long-division method, the products and the remainders as well as the figures in the quotient being written. After a week devoted to assimilative material involving one-digit divisors, both groups were taught to divide by two-digit numbers.

Preliminary tests.—The proficiency of the two groups in the processes used in division, that is, subtraction and multiplication, and in the division combinations was tested during the week before the teaching of division was begun. The test in subtraction consisted of fifty-four examples with minuends and subtrahends of from two to four digits each. The test in multiplication consisted of forty examples with multipliers of one digit and multiplicands of two or three digits. The examples in multiplication were written in horizontal form, since this form resembles the form in which multiplication occurs in long division more closely than does the vertical form. The tests in subtraction and multiplication were given with time limits of five minutes and four minutes, respectively. The test in division combinations was made up of the ninety even division facts. It was administered without a time limit, a record being kept of the time required for each pupil to complete the test. All three tests were given in mimeographed form, the pupils writing only the answers.

[1] Henry C. Morrison, *The Practice of Teaching in the Secondary School*, pp. 153–316. Chicago: University of Chicago Press, 1926.

The results of the preliminary tests are shown in Table I. The scores made by five pupils who had studied division previously or who were absent for a considerable time during the teaching of division were not included in computing the averages. It will be observed that in the three tests the average scores for Group 1 are slightly but consistently higher than those for Group 2 and that the time required for the division combinations was slightly less for Group 1 than for Group 2.

Group 1 was also superior to Group 2 with respect to intelligence. The intelligence quotients of the pupils in Group 1 ranged from 102 to 150, with an average of 118, while the intelligence quotients of

TABLE I

AVERAGE SCORES OF GROUP 1 AND GROUP 2 ON PRELIMINARY TESTS

	Group 1 (Fourteen Pupils)	Group 2 (Fourteen Pupils)
Subtraction:		
Number of examples attempted	32.8	28.0
Number of examples right	31.4	26.1
Multiplication:		
Number of examples attempted	20.0	17.6
Number of examples right	17.5	15.8
Division:		
Number of examples right	88.6	87.3
Time in minutes	4.6	4.9

the pupils in Group 2 ranged from 87 to 134, with an average of 112. The only respect in which Group 2 had any advantage was with regard to absences. The pupils in Group 1 missed an average of 3.3 days of school during the time in which division was being studied, while the pupils in Group 2 missed an average of 2.9 days.

Testing procedure.—Six tests were used to determine the differences in results occasioned by the difference in teaching procedure. Two of these tests—Tests A and B—were made up of examples with one-digit divisors. The other four tests—Tests C, D, E, and F—were made up of examples with one-digit divisors and examples with divisors of two or three digits. One week after the teaching of division was begun, that is, at the end of the time devoted to assimilative material involving one-digit divisors, Test A was given as a group test. During the next four days, Test B was given as an in-

dividual test to selected pupils from the two groups. The individual test was administered by having the pupil work aloud while an observer took notes on the methods used and occasionally asked questions. The pupils worked not more than a half-hour at a time. As a rule, two periods were required to complete the test. If a pupil did not finish in this length of time, the test was not completed, since it was thought unwise to use more than an hour for the purpose. Three other group tests and three other individual tests were given at two-week intervals following the first tests, two of the tests being used twice, once as a group test and once as an individual test. The group test given last, Test D, was repeated about three months later as a retention test. This second application of the test is referred to as

TABLE II

SCHEDULE OF GROUP AND INDIVIDUAL TESTS*

Group Test	Date	Individual Test	Date
A	December 5	B	December 6–9
C	December 19	D	December 20–23
E	January 9	F	January 10–13
D	January 23	C	January 24–27
D-2	April 30		

* Date of first presentation of division by one-digit numbers, November 28; date of first presentation of division by two-digit numbers, December 6.

Test D-2. The time limit for the first group test was thirteen minutes; for the other group tests, twenty-four minutes. The schedule of tests is shown in Table II.

Construction of tests.—In order to construct adequate tests, analyses were made of the steps involved in dividing by one-digit numbers and by larger numbers. The following points were considered in constructing the tests on the bases of these analyses:

1. Examples with one-digit divisors
   - *a*) Number of digits in the partial dividend
   - *b*) Number of digits in the quotient
   - *c*) Number of remainders in the example
   - *d*) Presence of a final remainder
   - *e*) Presence of zero in—
     - (1) Dividend
     - (2) Quotient

2. Examples with divisors of two or three digits
   a) Number of digits in the divisor
   b) Number of digits in the partial dividend
   c) Number of digits in the quotient
   d) Difference between the trial quotient and the true quotient
   e) Presence of a final remainder
   f) Presence of zero in—
      (1) Divisor
      (2) Dividend
      (3) Quotient

Seventeen types of examples with one-digit divisors and twenty-four types of examples with divisors of two or three digits were constructed. In Test A all seventeen types of examples with one-digit divisors were used; some of them were repeated in order to extend the test so that a time limit could be set that would make it possible for the slower pupils to complete all seventeen types. Test B was composed of sixteen examples with one-digit divisors; thirteen of the seventeen types were included, three types being repeated. Tests C, D, E, and F were each composed of thirty-two examples, one each of the thirteen types of examples with one-digit divisors included in Test B and one each of nineteen of the twenty-four types of examples with divisors of two or three digits. The examples with one-digit divisors were alternated as far as possible with examples with divisors of two or three digits. All the tests were given in mimeographed form.

RESULTS OF GROUP TESTS

The average scores made by the two groups on the group tests are shown in Table III. This table should be read as follows: In Test A, composed of examples with one-digit divisors, the average number of examples attempted by Group 1 was 28.2; by Group 2, 23.0. The average number of examples solved correctly by Group 1 was 21.2; by Group 2, 20.0. The percentage of examples attempted which were solved correctly was 75 for Group 1 and 87 for Group 2. The results for Tests C, E, D, and D-2 are given separately for the examples with one-digit divisors and for the examples with divisors of two or three digits.

Table III shows that in the first test, Test A, composed entirely

of examples with one-digit divisors and given after one week had been spent on division by one-digit numbers, Group 1, on the average, attempted 5.2 more examples, and solved correctly 1.2 more examples, than did Group 2. Group 1 solved correctly 75 per cent of the examples attempted, while Group 2 solved correctly 87 per cent, a difference of 12 points in favor of Group 2. According to this

TABLE III

AVERAGE NUMBER OF EXAMPLES IN GROUP TESTS ATTEMPTED BY GROUPS 1 AND 2, AVERAGE NUMBER OF EXAMPLES RIGHT, AND PERCENTAGE OF EXAMPLES RIGHT

	AVERAGE NUMBER OF EXAMPLES ATTEMPTED		AVERAGE NUMBER OF EXAMPLES RIGHT		PERCENTAGE OF EXAMPLES RIGHT	
	Group 1	Group 2	Group 1	Group 2	Group 1	Group 2
Test A (one-digit divisors)	28.2	23.0	21.2	20.0	75	87
Test C:						
One-digit divisors	9.0	11.2	4.7	9.4	53	84
Divisors of two or three digits	8.1	12.8	4.1	8.6	51	67
Total	17.1	24.0	8.8	18.0	52	75
Test E:						
One-digit divisors	10.0	11.5	7.8	10.4	78	91
Divisors of two or three digits	9.7	11.9	6.7	9.3	69	78
Total	19.7	23.4	14.5	19.7	74	84
Test D:						
One-digit divisors	10.1	10.8	8.2	9.2	82	85
Divisors of two or three digits	10.6	12.0	7.9	8.8	75	73
Total	20.7	22.8	16.1	17.9	78	79
Test D-2:						
One-digit divisors	11.7	11.3	10.6	10.0	91	88
Divisors of two or three digits	12.8	12.9	10.7	10.8	84	83
Total	24.5	24.2	21.3	20.8	87	86

test, then, the short-division form resulted in greater speed and the long-division form in greater accuracy. The results of Test C, given two weeks later and including examples with divisors of one, two, and three digits, show that in examples with one-digit divisors Group 2, on the average, attempted 2.2 more examples than did Group 1 and solved correctly 4.7 more examples; Group 1 solved correctly 53 per cent of the examples attempted, while Group 2 solved correctly 84 per cent, a difference of 31 points in favor of Group 2. Similarly, with respect to examples with divisors of two or three digits, Group

2, on the average, attempted 4.7 more examples, and solved correctly 4.5 more examples, than did Group 1; Group 1 solved correctly 51 per cent of the examples attempted, while Group 2 solved correctly 67 per cent, a difference of 16 points in favor of Group 2. The results of Test E are similar to those of Test C except that the differences are smaller, the increases for Group 1 being larger than those for Group 2. On Test D Group 2 did less well than on Test E, given two weeks earlier, while Group 1 showed small gains. However, Group 2 still maintained a slight superiority over Group 1 in all respects except in the percentage of examples with divisors of two or three digits solved correctly, Group 1 surpassing Group 2 by two

TABLE IV

NUMBER OF PUPILS IN GROUP 1 WHO USED THE LONG-DIVISION FORM IN GROUP TESTS TO SOLVE EXAMPLES WITH ONE-DIGIT DIVISORS

Test	Number of Pupils Tested	Number of Pupils Using Long-Division Form	Total Number of Examples Attempted	Total Number of Examples in Which Long-Division Form Was Used
A	11	0	310	0
C	11	6	99	44
E	12	9	120	77
D	13	10	131	89
D-2	13	10	152	98
Total			812	308

points. The results of the second application of Test D, about three months later, show higher scores for both groups than were made on the first application of the test. The increases for Group 1 are, however, larger than those for Group 2, resulting in small differences in favor of Group 1 in the case of examples with one-digit divisors; the scores on the examples with divisors of two or three digits were practically the same for the two groups.

Interpretation of these results is complicated by a marked tendency on the part of pupils in Group 1 to use the long-division form for the solution of all types of examples. The number of pupils in Group 1 using this form to divide by a one-digit number is shown in Table IV. This table should be read as follows: In Test A, which was made up of examples with one-digit divisors, none of the eleven pupils taking the test used the long-division form in solving the

examples. In Test C, six of the eleven pupils tested used that form in solving examples with one-digit divisors, forty-four of the ninety-nine examples attempted being solved by that form. While the number of examples in which individual pupils used the long-division form in any one test except Test A ranged from one to all the examples attempted, in only four of the thirty-five cases of the use of the long-division form was it used in less than one-half of the examples attempted; in twenty-one of the thirty-five cases it was used in all the examples attempted; and in seven cases it was used in all but one of the examples attempted. Only two of the fourteen pupils in Group 1 did not use the long-division form in solving any example with a one-digit divisor in the five tests.

TABLE V

NUMBER OF PUPILS IN GROUP 2 WHO USED THE SHORT-DIVISION FORM IN GROUP TESTS TO SOLVE EXAMPLES WITH ONE-DIGIT DIVISORS

Test	Number of Pupils Tested	Number of Pupils Using Short-Division Form	Total Number of Examples Attempted	Total Number of Examples in Which Short-Division Form Was Used
A	13	0	299	0
C	13	2	146	12
E	12	1	138	4
D	12	2	129	2
D-2	13	3	147	14
Total			859	32

On the other hand, there was no marked tendency on the part of the pupils in Group 2 to use the short-division form. Only five of the fourteen pupils in the group used this form at all, and four of these pupils confined its use to examples of the following type: $4\overline{)48}$. Only one pupil used the short-division form in more than one example in all five tests. Twenty-eight of the thirty-two examples in which the short-division form was used were solved by one pupil. The number of pupils using the short-division form in each test is shown in Table V.

Summary.—The results of the group tests may be summarized as follows:

1. Before the pupils were taught to divide by two-digit numbers, Group 1, the group dividing by one-digit numbers by means of the

short-division form, showed greater speed, and Group 2, the group using the long-division form, showed greater accuracy.

2. After division involving divisors of two or more digits had been taught, the pupils who were taught to use the long-division form in dividing by one-digit numbers were able to solve examples with either kind of divisor more rapidly and more accurately than the pupils who were taught to use the short-division form in dividing by one-digit numbers.

3. The pupils who were taught both forms tended to use the long-division form in all examples regardless of the fact that they had been taught to solve examples with one-digit divisors by means of the short-division form.

RESULTS OF INDIVIDUAL TESTS

As was stated previously, during the four days following each of the first four group tests, selected pupils from the two groups were given individual tests. These pupils were chosen by selecting pairs of pupils, one pupil from each group, who were similar in intelligence quotients, scores on preliminary tests, and general ability in arithmetic as determined by the judgment of the teacher. Four pairs of pupils were selected in this manner. To this group were added the pupils who were, in the teacher's judgment, the best and the poorest pupils in arithmetic in each group. The six pairs of pupils were tested in the manner described in order to determine the effect on individuals of the difference in teaching procedure and also to discover the errors made by fifth-grade pupils in learning to divide. The records for one of the pupils could not be used because it was learned that she had previously attended another school in which division was taught in the fourth grade. Absence of one member of a pair for all or part of one or more of the tests, or failure to finish the tests within the time permitted, makes it impossible to compare the results for each pair of pupils selected. It is interesting, however, to compare the percentage of examples attempted which were solved correctly by the individuals tested. The percentage of examples attempted which were solved correctly is shown for each group in Table VI. The groups were found to be comparable as judged by the results of the preliminary tests. It will be ob-

served that the results of the individual tests indicate the same conclusions that were drawn from the results of the group tests. The tendency on the part of pupils in Group 1 to adopt the long-division method in solving examples with one-digit divisors that was noted in the discussion of the results of the group tests was observed also in the individual tests.

Types of errors.—Both the records made by the observer with regard to the methods of work used during the individual tests and

TABLE VI

PERCENTAGE OF EXAMPLES ATTEMPTED WHICH WERE SOLVED CORRECTLY BY PUPILS IN GROUPS 1 AND 2 IN INDIVIDUAL TESTS

	Group 1	Group 2
Test B (one-digit divisors)	46	78
Test D:		
One-digit divisors	39	91
Divisors of two or three digits	39	83
Total	39	86
Test F:		
One-digit divisors	88	91
Divisors of two or three digits	77	82
Total	82	86
Test C:		
One-digit divisors	94	94
Divisors of two or three digits	83	80
Total	88	86

the test papers were analyzed to determine the types of errors made by the pupils. Table VII shows the types of errors observed in the solutions of the examples with one-digit divisors and the frequency of occurrence of each type. Each error was counted each time it occurred unless it was corrected by the pupil immediately. Table VII should be read as follows: The type of error occurring most frequently was an error in a division combination. This type of error was made eleven times in Test B, nine times in Test D, six times in Test F, and four times in Test C—a total of thirty times for all four tests. Too much importance should not be attached to the relative frequencies of the different types of errors because there were not equal opportunities for all types of errors. For example, the fact that

errors in division combinations were most frequent can be explained in part by the fact that there are in every example in division several

TABLE VII

NUMBER AND TYPES OF ERRORS MADE BY PUPILS IN EACH INDIVIDUAL TEST IN SOLVING EXAMPLES WITH ONE-DIGIT DIVISORS

Type of Error	Test B (Ten Pupils)	Test D (Ten Pupils)	Test F (Nine Pupils)	Test C (Eight Pupils)	Total (Ten Pupils)
1. Made error in division combination	11	9	6	4	30
2. Did not use remainder	6	18	1	0	25
3. Used too large a remainder	6	13	1	1	21
4. Used wrong number of digits in dividend to compute quotient	8	3	2	0	13
5. Made error in subtraction	3	4	5	0	12
6. Made error in multiplication	4	4	2	2	12
7. Ignored part of dividend	11	0	0	0	11
8. Made error in remainder*	8	0	2	0	10
9. Added remainder to next digit of dividend	10	0	0	0	10
10. Used remainder as partial dividend without annexing new digit	1	4	3	0	8
11. Misinterpreted meaning of too large a remainder	2	1	1	1	5
12. Omitted zero in quotient resulting from digit other than zero	0	2	2	1	5
13. Omitted zero in quotient resulting from zero	0	4	1	0	5
14. Used too large a product	0	3	1	0	4
15. Used digit in dividend without annexing it to remainder	0	2	1	0	3
16. Multiplied divisor twice as if it were a two-digit number	0	2	0	0	2
17. Made error in reading digits	0	1	1	0	2
18. Omitted digit in dividend	1	0	0	1	2
19. Used digit in dividend twice	0	1	1	0	2
20. Did not perform final multiplication and subtraction	1	0	0	0	1
21. Annexed digit in dividend to product, not to remainder	0	1	0	0	1
22. Determined quotient by guessing	0	0	0	1	1
23. Subtracted second trial product from rejected product	1	0	0	0	1
24. Omitted digit in quotient	0	1	0	0	1
25. Estimated digit in quotient before annexing new digit to remainder	0	0	0	1	1
Total	73	73	30	12	188

* When the short-division form was used, it was sometimes impossible to determine whether an error in a remainder was caused by an error in multiplication or by an error in subtraction. Such an error is classified as an error in remainder.

opportunities for errors of this type, while for certain other types of errors—for example, Error 13, "omitted zero in quotient resulting from zero"—the opportunities are less numerous. A comparison of

the frequencies of a given type of error for the various tests is interesting. In some cases—for example, Error 1—there was a steady decrease, while in others—for example, Errors 2 and 3—there were more errors in Test D than in Test B, followed by a sharp decrease in Test F. Certain other types of errors—for example, Errors 7 and 9—occurred only in Test B.

Table VIII shows the same types of errors distributed by group instead of by test. This table should be read as follows: Error 1 was made seven times by pupils in Group 1 and twenty-three times by pupils in Group 2—a total frequency of thirty. In interpreting this table, the reader should keep in mind the fact that the total number of examples with one-digit divisors solved by the two groups was not the same because of absences, the total number of examples attempted being 232 for Group 1 and 262 for Group 2. Interesting differences between the frequencies for the two groups may be observed. Group 2 made more errors than Group 1 in division combinations and in multiplication and subtraction, that is, in computation, while Group 1 made more errors showing lack of understanding of the process—for example, Errors 2, 3, 9, and 10, all relating to the use of remainders. The total number of errors made by Group 1 is more than twice as great as the total number of errors made by Group 2.

Table IX shows the frequencies of the types of errors in terms of the number of pupils making each type of error at least once. Table IX should be read as follows: Error 1 was made at least once by four pupils in Group 1 and by five pupils in Group 2; in all, nine of the ten pupils tested made Error 1. The totals show that two-fifths of the types of errors were made by not more than one pupil, while more than one-half were made by only one or two of the ten pupils. It is interesting to note that the pupils in Group 1 made a larger variety of errors than did the pupils in Group 2. All except three of the twenty-five types of errors were noted in the work of the pupils in Group 1, while ten types were not observed in the work of the pupils in Group 2.

Tables X, XI, and XII are similar in construction to Tables VII, VIII, and IX; they show corresponding data for the examples in the individual tests with divisors of two or three digits. From

Table X it may be observed that the frequencies of certain types of errors show gradual decrease—for example, Errors 1, 5, 6, and 8;

TABLE VIII

NUMBER AND TYPES OF ERRORS MADE BY PUPILS IN GROUPS 1 AND 2 IN INDIVIDUAL TESTS IN SOLVING EXAMPLES WITH ONE-DIGIT DIVISORS

Type of Error	Group 1 (Five Pupils)*	Group 2 (Five Pupils)	Total (Ten Pupils)
1. Made error in division combination	7	23	30
2. Did not use remainder	23	2	25
3. Used too large a remainder	18	3	21
4. Used wrong number of digits in dividend to compute quotient	11	2	13
5. Made error in subtraction	4	8	12
6. Made error in multiplication	1	11	12
7. Ignored part of dividend	11	0	11
8. Made error in remainder*	10	0	10
9. Added remainder to next digit of dividend	10	0	10
10. Used remainder as partial dividend without annexing new digit	7	1	8
11. Misinterpreted meaning of too large a remainder	3	2	5
12. Omitted zero in quotient resulting from digit other than zero	2	3	5
13. Omitted zero in quotient resulting from zero	4	1	5
14. Used too large a product	4	0	4
15. Used digit in dividend without annexing it to remainder	3	0	3
16. Multiplied divisor twice as if it were a two-digit number	2	0	2
17. Made error in reading digits	2	0	2
18. Omitted digit in dividend	1	1	2
19. Used digit in dividend twice	1	1	2
20. Did not perform final multiplication and subtraction	0	1	1
21. Annexed digit in dividend to product, not to remainder	1	0	1
22. Determined quotient by guessing	0	1	1
23. Subtracted second trial product from rejected product	0	1	1
24. Omitted digit in quotient	1	0	1
25. Estimated digit in quotient before annexing new digit to remainder	1	0	1
Total	127	61	188

* When the short-division form was used, it was sometimes impossible to determine whether an error in a remainder was caused by an error in multiplication or by an error in subtraction. Such an error is classified as an error in remainder.

others show rapid decrease after the first test—for example, Errors 3 and 7; still others remain fairly constant—for example, Error 4. Interpreting Table XI, the reader should keep in mind the fact that the pupils in Group 1 solved 201 examples with divisors of two or

three digits while the pupils in Group 2 solved 248 such examples. In spite of this fact, the pupils in Group 1 made many more errors than did the pupils in Group 2 as well as more types of errors.

TABLE IX

NUMBER OF PUPILS IN GROUP 1 AND GROUP 2 GIVEN INDIVIDUAL TESTS WHO MADE EACH TYPE OF ERROR ONCE OR OFTENER IN SOLVING EXAMPLES WITH ONE-DIGIT DIVISORS

Type of Error	Group 1 (Five Pupils)	Group 2 (Five Pupils)	Total (Ten Pupils)
1. Made error in division combination	4	5	9
2. Did not use remainder	3	1	4
3. Used too large a remainder	4	2	6
4. Used wrong number of digits in dividend to compute quotient	2	2	4
5. Made error in subtraction	1	4	5
6. Made error in multiplication	1	5	6
7. Ignored part of dividend	1	0	1
8. Made error in remainder*	3	0	3
9. Added remainder to next digit of dividend	2	0	2
10. Used remainder as partial dividend without annexing new digit	2	1	3
11. Misinterpreted meaning of too large a remainder	3	2	5
12. Omitted zero in quotient resulting from digit other than zero	1	2	3
13. Omitted zero in quotient resulting from zero	3	1	4
14. Used too large a product	1	0	1
15. Used digit in dividend without annexing it to remainder	1	0	1
16. Multiplied divisor twice as if it were a two-digit number	1	0	1
17. Made error in reading digits	2	0	2
18. Omitted digit in dividend	1	1	2
19. Used digit in dividend twice	1	1	2
20. Did not perform final multiplication and subtraction	0	1	1
21. Annexed digit in dividend to product, not to remainder	1	0	1
22. Determined quotient by guessing	0	1	1
23. Subtracted second trial product from rejected product	0	1	1
24. Omitted digit in quotient	1	0	1
25. Estimated digit in quotient before annexing new digit to remainder	1	0	1

* When the short-division form was used, it was sometimes impossible to determine whether an error in a remainder was caused by an error in multiplication or by an error in subtraction. Such an error is classified as an error in remainder.

Summary.—The results of the individual tests showed, as did the results of the group tests, that the use of the long-division form is conducive to greater accuracy than is the use of the short-division form. They also revealed a tendency on the part of the pupils who

TABLE X

NUMBER AND TYPES OF ERRORS MADE BY PUPILS IN EACH INDIVIDUAL TEST IN SOLVING EXAMPLES WITH DIVISORS OF TWO OR THREE DIGITS

Type of Error	Test D (Ten Pupils)	Test F (Nine Pupils)	Test C (Eight Pupils)	Total (Ten Pupils)
1. Made error in multiplication	40	30	26	96
2. Made error in division combination	20	7	13	40
3. Used too large a remainder	27	8	4	39
4. Made error in subtraction	13	13	11	37
5. Used wrong number of digits in dividend to estimate quotient	12	9	4	25
6. Used unusual method of estimating quotient	9	7	3	19
7. Did not use remainder within example to estimate quotient	15	0	0	15
8. Used too large a product	9	4	1	14
9. Misinterpreted meaning of too large a remainder	6	2	3	11
10. Used remainder as partial dividend without annexing new digit	2	4	5	11
11. Omitted digit in dividend	4	5	1	10
12. Determined trial quotient by guessing	4	2	1	7
13. Placed product incorrectly	5	1	0	6
14. Was unable to complete the solution	3	0	2	5
15. Used digit in dividend without annexing it to remainder	2	2	0	4
16. Misinterpreted meaning of too large a product	1	0	2	3
17. Used second digit in divisor to estimate quotient	0	1	1	2
18. Omitted zero in quotient resulting from digit other than zero	2	0	0	2
19. Made error in reading digits	1	0	1	2
20. Compared remainder with divisor after annexing new digit	1	0	1	2
21. Estimated digit in quotient before annexing new digit to remainder	2	0	0	2
22. Omitted zero in quotient resulting from zero	1	0	0	1
23. Failed to subtract, using new digit without remainder	1	0	0	1
24. Multiplied by wrong digit in quotient	1	0	0	1
25. Used digit in dividend twice	1	0	0	1
26. Made error in comparing product with partial dividend	0	0	1	1
27. Annexed digit in dividend to product, not to remainder	1	0	0	1
28. Made error in annexing digit to remainder	0	1	0	1
29. Used product of rejected digit in quotient and divisor as partial dividend	1	0	0	1
30. Failed to erase rejected digit in quotient	0	1	0	1
31. Erased first digit in quotient by mistake	1	0	0	1
32. Made error in writing digit in quotient	0	0	1	1
Total	185	97	81	363

TABLE XI

NUMBER AND TYPES OF ERRORS MADE BY PUPILS IN GROUPS 1 AND 2 IN INDIVIDUAL TESTS IN SOLVING EXAMPLES WITH DIVISORS OF TWO OR THREE DIGITS

Type of Error	Group 1 (Five Pupils)	Group 2 (Five Pupils)	Total (Ten Pupils)
1. Made error in multiplication	34	62	96
2. Made error in division combination	13	27	40
3. Used too large a remainder	33	6	39
4. Made error in subtraction	20	17	37
5. Used wrong number of digits in dividend to estimate quotient	15	10	25
6. Used unusual method of estimating quotient	19	0	19
7. Did not use remainder within example to estimate quotient	14	1	15
8. Used too large a product	14	0	14
9. Misinterpreted meaning of too large a remainder	5	6	11
10. Used remainder as partial dividend without annexing new digit	11	0	11
11. Omitted digit in dividend	5	5	10
12. Determined trial quotient by guessing	2	5	7
13. Placed product incorrectly	3	3	6
14. Was unable to complete the solution	5	0	5
15. Used digit in dividend without annexing it to remainder	4	0	4
16. Misinterpreted meaning of too large a product	2	1	3
17. Used second digit in divisor to estimate quotient	2	0	2
18. Omitted zero in quotient resulting from digit other than zero	0	2	2
19. Made error in reading digits	1	1	2
20. Compared remainder with divisor after annexing new digit	1	1	2
21. Estimated digit in quotient before annexing new digit to remainder	2	0	2
22. Omitted zero in quotient resulting from zero	1	0	1
23. Failed to subtract, using new digit without remainder	1	0	1
24. Multiplied by wrong digit in quotient	0	1	1
25. Used digit in dividend twice	1	0	1
26. Made error in comparing product with partial dividend	0	1	1
27. Annexed digit in dividend to product, not to remainder	1	0	1
28. Made error in annexing digit to remainder	0	1	1
29. Used product of rejected digit in quotient and divisor as partial dividend	0	1	1
30. Failed to erase rejected digit in quotient	1	0	1
31. Erased first digit in quotient by mistake	1	0	1
32. Made error in writing digit in quotient	1	0	1
Total	212	151	363

had been taught both forms of solution to use the long-division form in solving all examples in division regardless of the number of

TABLE XII

NUMBER OF PUPILS IN GROUP 1 AND GROUP 2 GIVEN INDIVIDUAL TESTS WHO MADE EACH TYPE OF ERROR ONCE OR OFTENER IN SOLVING EXAMPLES WITH DIVISORS OF TWO OR THREE DIGITS

Type of Error	Group 1 (Five Pupils)	Group 2 (Five Pupils)	Total (Ten Pupils)
1. Made error in multiplication	5	5	10
2. Made error in division combination	5	5	10
3. Used too large a remainder	5	3	8
4. Made error in subtraction	5	5	10
5. Used wrong number of digits in dividend to estimate quotient	4	5	9
6. Used unusual method of estimating quotient	1	0	1
7. Did not use remainder within example to estimate quotient	1	1	2
8. Used too large a product	2	0	2
9. Misinterpreted meaning of too large a remainder	3	1	4
10. Used remainder as partial dividend without annexing new digit	3	0	3
11. Omitted digit in dividend	4	4	8
12. Determined trial quotient by guessing	2	2	4
13. Placed product incorrectly	2	2	4
14. Was unable to complete the solution	2	0	2
15. Used digit in dividend without annexing it to remainder	1	0	1
16. Misinterpreted meaning of too large a product	1	1	1
17. Used second digit in divisor to estimate quotient	2	0	2
18. Omitted zero in quotient resulting from digit other than zero	0	1	1
19. Made error in reading digits	1	1	2
20. Compared remainder with divisor after annexing new digit	1	1	2
21. Estimated digit in quotient before annexing new digit to remainder	2	0	2
22. Omitted zero in quotient resulting from zero	1	0	1
23. Failed to subtract, using new digit without remainder	1	0	1
24. Multiplied by wrong digit in quotient	0	1	1
25. Used digit in dividend twice	1	0	1
26. Made error in comparing product with partial dividend	0	1	1
27. Annexed digit in dividend to product, not to remainder	1	0	1
28. Made error in annexing digit to remainder	0	1	1
29. Used product of rejected digit in quotient and divisor as partial dividend	0	1	1
30. Failed to erase rejected digit in quotient	1	0	1
31. Erased first digit in quotient by mistake	1	0	1
32. Made error in writing digit in quotient	1	0	1

digits in the divisor. Analysis of the errors made in the individual tests indicated that the pupils who were taught both forms of division made more errors and a greater variety of errors than did the pupils who were taught only the long-division form.

CONCLUSIONS

The number of pupils involved in the study here reported is obviously too small to justify more than tentative conclusions. The facts presented seem to indicate that it is advisable to teach only the long-division form of solution. There is, however, another side of the question to be considered. Many occasions for the use of division occur under circumstances in which it is desirable for the work to be done mentally, only the quotient being written. For example, when a fraction is to be reduced to its lowest terms, or an improper fraction is to be reduced to a mixed number, the necessity for performing the division by the long-division form would appreciably retard the calculation—not much more, however, according to the results of the investigation here reported, than the necessity for performing the division by the short-division method. It is much more economical to write only the quotient, not writing the example in the usual division form at all. Although no data on the question are available, it seems reasonable to assume that a change from the short-division form to such a method would be effected more easily than a change from the long-division form. It would seem, therefore, that a justifiable procedure would be as follows: Teach first the long-division form, applying it to the solution of examples with divisors of any number of digits. When this method has been learned, teach the short-division method *as a short cut*, applying it not only to division by one-digit numbers but also to division by two-digit numbers ending in zero or three-digit numbers ending in two zeros and to division by such numbers as twelve and twenty-five, the multiples of which are familiar. In this way many of the difficulties attendant upon the learning of division would be overcome, and at the same time the pupil would be able to make use of the abbreviated method in later applications.

LARGE OR SMALL WRITING FOR BEGINNERS?

HARRY HOUSTON
Supervisor of Penmanship, Public Schools, New Haven, Connecticut

Whether we teach beginners to use large or small writing depends largely on our philosophy of education and on the use made of well-known facts with regard to muscular development. The majority of educators once thought that the best way to determine what children should be taught in school was to gather together the facts and skills needed by adults and teach a certain part of these in each grade. Education was a pouring-in process, and it was the business of teachers to drill pupils on the supply of facts assigned to them. Educators were not concerned as to whether the pupils would have immediate use for the skills and facts learned. The mind was thought to be a storehouse, into which knowledge could be packed, to be unpacked later in life when the need arose. The work done by the children in all subjects was the result of this philosophy of education. Motor skills, such as writing and drawing, were built up piece by piece; at first the children made straight or curved lines. In writing, letters were first formed from the lines which had been practiced, then words and sentences. Manual training just escaped being drawn into this procedure. When this subject was first introduced, it was thought logical and best that the pupils should saw boards until they could saw straight, plane until they could make a smooth surface, and drive nails until they could drive them straight. If these activities were carried on long enough and with sufficient thoroughness, the pupils would be equipped to make something. Fortunately, educational theories began to change at about the time that manual training was introduced. The doctrine of interest began to have its influence; and, as manual training was a new subject, swinging it into the current of educational progress was not difficult. The older subjects were more securely intrenched, and to change them has been slower work.

When it was found how adults should write, it was perfectly logi-

cal under the old philosophy to have young children begin on what they would need when they became adults. It was thought to be absurd for children to practice large writing when they would later need small forms. One thing was done thoroughly under the old philosophy—separating into minute parts the information and skills to be imparted. In reading, it was thought that words could not be attempted until the alphabet had been mastered. In writing, the first step was to give drill on straight and curved lines. Some progress was made even under the old philosophy so that pupils began with letters and not with parts of letters, but there was a period when the practice of each letter was preceded by an appropriate movement exercise. While some of that procedure has been given up, there are still teachers who cling to the idea that pupils should not write a word until they have practiced the separate letters. For example, some first-grade pupils, taught by a recent graduate of a normal school, had been playing with a ball. When it was suggested to the teacher that they might write the word "ball," she replied that they could not do so as they had not yet learned the letter *l* and would not take it up for a month or two.

No one will deny that great changes have been made in the materials used in the primary grades. Practically all the small materials and fine work have disappeared and have been replaced by larger materials and coarser work. The kindergartens and the first grades show these changes to such an extent that they must be apparent to all. Changes just as great are seen in the activities of the children. They are no longer kept in straight, rigid positions while education is poured into them by the old piece-by-piece method. There is more activity in the modern school. Children are expressing themselves by talking, reading, drawing, and making things to an extent that would never have been tolerated under the old philosophy. These changes are so widespread and so apparent that it is believed they will not be disputed.

Should handwriting be banned from the changes to coarser work and from use as a means of expression? It has not been banned in many places. Exhibitions of handwriting at conventions of penmanship teachers during the past ten years have shown changes to large writing for beginners and a gradual disappearance of formal drills.

Two groups remain among teachers of handwriting—one opposed to, and the other in favor of, adopting the changes that have taken place in the other subjects. In a number of places opposition has brought about controversy between the teachers of penmanship and the teachers or the supervisors of the primary grades. The teachers and the supervisors want children to acquire handwriting as quickly as possible as another means of expression and for use in connection with other subjects. It has been found that, by using the blackboard, wax crayons, and coarse pencils, by basing the practice on the pupils' needs and interests in the other subjects, and by omitting formal drills, children can be taught to write much more quickly than in the old way.

The demand that pupils be equipped with a means of expression for use in connection with other subjects has been so great that manuscript writing has been introduced in some places. Investigation reveals that, in practically every place where manuscript writing has been introduced, its use was preceded by methods consisting in formal drills and exercises, which were slow in producing the ability to use writing. It is believed that the introduction of manuscript writing is a protest against the old inflexible procedure in the teaching of writing. The majority of educators are hoping that instruction in handwriting can be carried on in such a manner that it will not be necessary to devote eight years or more to special practice. It has not yet been proved that manuscript writing should replace the cursive style throughout the grades. In most of the places where it is used, a change to the cursive style is made at the end of the second grade. Study is needed to determine whether this plan of teaching two distinct styles is a help or a hindrance in completing the period of practice in penmanship more quickly than heretofore. It would seem that the time would not be shortened, but a study should be made as soon as this double procedure has been used long enough to demonstrate results. Manuscript writing meets the need for a quick means of expression and frees teachers from arduous drills and exercises, but it may be found to delay the acquirement of a good cursive style. The new method of presenting the cursive style meets the need for a quick means of expression and, at the same time, necessitates no radical change in the style of writing later in the grades.

These demands and changes have been caused largely by the adoption of the new philosophy of education. Under this new philosophy it is believed that children are entitled to a period of childhood in their education and that adult standards and methods should not be applied. It is recognized that the learning process is accelerated if the instruction and practice meet immediate, not future, needs and that the learning is more adequately fixed by being put to immediate use.

What are the results in the quality of writing? The opponents of large writing are able to show very good small writing written with pen and ink by pupils in the first grade. Advocates of every method of teaching handwriting are able to bring forward the same kind of evidence. What can be done with young children is not the best criterion of what should be done. Any method of teaching reading or writing, no matter how poor, can be made to succeed by sufficient emphasis and skilful teaching. Simply investigating one method in one school and another method in another school does not produce reliable evidence. For example, a group of superintendents inspected the handwriting in a certain school and found astonishingly good work. After further study they came to the conclusion that the school was not an ordinary public school but was a special school of penmanship. Many factors must be considered in investigating and judging results.

The large writing of beginners should be reduced gradually through the first four or five grades. If changes are made gradually, the difficulties encountered, such as small, cramped writing, muscular tension, and collapsed positions, will be lessened. Some schools make the mistake of teaching large writing to beginners and making an abrupt change in the second or third grade. This course will exaggerate the difficulties. It is the writer's belief that we do not sense these difficulties as we should. Teachers often ask why it is difficult to prevent pupils from gripping their pencils, bending over their work, and writing in a small, cramped style. It may be pointed out that adults would encounter similar difficulties if they were required to thread fine needles for several periods of fifteen to twenty minutes every day.

With regard to the muscular development of children, it is gen-

erally conceded that large-muscle movements are developed first and that this development is followed by a period of several years before there is a co-ordination of finer, more complex movements. Physiologists and psychologists have been stating these facts for a number of years. The knowledge of the progress of muscular development has been one of the chief reasons for the elimination of small materials and of fine, accurate work in the kindergarten and primary grades.

More than thirty years ago G. Stanley Hall was a pioneer and leader in what was known as the "child-study movement." Many of the changes in educational policies can be traced to his writings and experiments. One of his disciples, John A. Hancock, made a study of motor control. He found that "motor control in man is from three to six times greater than that of children in the first year of school life. The order of control is from fundamental to accessory and evidently is in harmony with the theory of physiological development."[1] The tests he gave included the tying of knots, the threading of needles, and other fine work. He found that in the co-ordination of the large muscles far less difficulty is experienced than in the co-ordination of the small muscles. Fine and complicated movements are made with difficulty. In his conclusions he said, "The laws of physical development should be regarded more in the construction of systems of education."[2] He also said, "Early writing on paper should all be large and allow for the inability of children to conform exactly to demands for great accuracy."[3] He believed that "kindergarten work generally is too fine. . . . . Occupations and games for young children should be of a nature that will involve large muscles and movements."[4]

The knowledge of the progress of children's muscular development is sufficient without other evidence to prove that writing on the blackboard and large writing on paper are best for young children. This knowledge has already had its influence in the changes that have taken place in the other subjects, and it is believed that handwriting, since it is a motor skill, should also conform to physical development. One of the chief criticisms of small writing, of formal

[1] John A. Hancock, "A Preliminary Study of Motor Ability," *Pedagogical Seminary*, III (October, 1894), 17.

[2] *Ibid.*, p. 21. [3] *Ibid.*, p. 26. [4] *Ibid.*, p. 26–27.

drills, and of isolated practice is that such procedure does not fit into the general educational policy controlling the other subjects. Primary teachers, principals, and superintendents in increasing numbers wish to have handwriting practice brought into the current of educational progress. Some are resisting this procedure. Which side will win in this controversy? The new philosophy is gaining rapidly, and the winning side will be that which follows sound psychological principles and which uses the results of scientific investigations and the information at hand with regard to physical development. Psychologists and other leaders in educational theory are not given to outlining procedures based simply on opinion. Judd, Freeman, Gates, and others base their advocacy of large, coarse work for beginners on psychological principles and the results of investigations.

Teachers of writing have been expressing their opinions for or against large writing. What is needed is further study of fundamental principles and more scientific investigations. The National Association of Penmanship Teachers and Supervisors has recognized this need and has planned for a number of investigations. It would be somewhat difficult to conduct a controlled experiment in order to determine whether large or small writing should be taught because the question at issue is more than a question of size. The point to be determined is whether or not handwriting shall be taught in such a manner that it will be of the greatest value in carrying on the other subjects.

Some phases of handwriting for beginners are being studied by a committee appointed by the president of the National Association of Penmanship Teachers and Supervisors. It is hoped to secure data on three points: (1) the children's readiness for writing, (2) the children's wishes and needs with regard to writing, and (3) the relative difficulty of large and small writing. A questionnaire has been prepared in order to secure opinions from primary teachers, teachers of penmanship, supervisors of penmanship, and any others who will make contributions. Requests have been made for references to articles, books, and studies which will reinforce the opinions offered.

The committee is attempting to secure more than opinion with regard to the relative difficulty of large and small writing. A test has been prepared to be given to pupils in the kindergarten and the first

grade. It is planned to secure data on the relative accuracy of large and small forms, the relative difficulty as expressed in time, and the relative amount of pressure exerted. Identical forms have been prepared, graduated in size from small to large. The forms consist of pairs of lines made up of series of curves, the two lines in each pair being equally distant from each other at all points. The pupil is required to make a line between these two lines. A scale for determining accuracy will be made. The pencil is to travel the same number of inches on both the large and the small forms so that the relative time can be determined. The pressure exerted is to be found by placing under the test paper several sheets of paper alternating with carbon paper. A special pencil has been made inclosing a rubber tube, which is filled with mercury and which is placed so that the pupil's thumb will press the tube when he is writing. Above the rubber tube and attached to it is a glass tube, through which the mercury may be seen to register high or low according to the amount of gripping. It is hoped to determine the correlation between gripping and pressure and to note the differences, if any, when the pupil is working on the large and the small forms. It is not thought that this study will solve all the problems; but it may show some tendencies, stimulate interest, and point the way to further study.

AN INVESTIGATION OF THE EFFECTIVENESS OF THE TEST-TEACH-TEST METHOD OF INSTRUCTION IN SPELLING

A. C. SENOUR
General Supervisor, Public Schools, East Chicago, Indiana

Spelling books published in the past few years are decidedly different in organization from those generally used a decade ago. The words which are included are limited in number and are graded according to the difficulty which they present. There are as many lists of words for any one grade as there are weeks in the ordinary school year. Each week a list is to be taught by the test-teach-test method, and it is expected that the list will have been mastered by the end of the week. Mastery is expected to be permanent, for there is but little provision for repeated study of the words.

Introduction of the new type of spelling book into a city or state school system frequently meets with some skepticism. Teachers and parents are disposed to question the principle because it is very different from that of earlier days. Since Indiana has been using, by state adoption in 1926, a spelling book of the newer type,[1] there has been some discussion of the merits of the test-teach-test method of instruction. As the discussion has been based largely on opinion, an investigation was instituted in September, 1927, for the purpose of obtaining objective evidence as to (1) the degree of mastery attained after pupils had studied the list of words for any one week and (2) the permanency of this mastery as indicated by retesting after the lapse of a month and after the lapse of four months.

Unselected groups of pupils in East Chicago, Indiana, were used for the investigation. An announcement of the proposed study was made to the teachers at the opening of school. Teachers of pupils in Grades III–VIII were invited to co-operate. Eighteen teachers, who were in charge of forty-three sections of pupils, responded. These groups included pupils of European, Mexican, and negro parentage

[1] William A. McCall and J. David Houser, *The McCall Speller*. Chicago: Laidlaw Bros., 1925.

as well as pupils of native white stock. Some of the groups were composed of pupils of varied intellectual abilities, although most of them were classified sections of advanced or retarded ability. Because of mistakes made in following the directions or because of other reasons, the work of eight teachers was discontinued during the period of the study or was disregarded at the close. Ten teachers and twenty-five sections of pupils continued satisfactorily to the end.

The results obtained from the work of the 694 pupils in the twenty-five sections may be accepted as indicative of the work of pupils in general. All the 694 pupils were present on each of the four days when tests were given. They were also present during the entire week when the words were studied. The teachers have stated that the pupils did not know that they were participating in an investigation, that they did not know that they were to re-spell the words after the end of the week, and that there was no study of the words after the initial week's study except of those words which appeared in the list for monthly review. Of course, a child may have had occasion to use some of the words in his regular work and may have profited some from such use. However, there was no effort to create situations that would occasion their use.

On Monday, September 19, the initial test, hereafter designated as the first test, was given before the pupils had studied the list of words for the week. On Tuesday the pupils studied the words missed on Monday. On Wednesday another test on the same list was given. No record of the test given on Wednesday was made for this investigation. On Thursday there was further study of the words, especially of those missed on Wednesday. The final test of the week, hereafter referred to as the second test, was given on Friday, September 23. Four weeks later, on Friday, October 21, the first retest was given. This retest is referred to as the third test. On Friday, January 13, 1928, three months later, or four months after the second test, the second retest was given. This retest is referred to as the fourth test. Immediately after each of the four tests, the teachers reported the results to the office of the general supervisor on a form that showed the misspellings of the individual pupils. They also reported the attendance of the pupils during the week of study and the number of minutes devoted to the spelling lesson each day during the

week. They made a detailed statement of what was done each day of the week during the spelling period.

After the reports of the four tests were received, the data concerning all pupils in the twenty-five sections who had not been absent

TABLE I

NUMBER OF WORDS MISSPELLED BY EACH OF THE TWENTY-FIVE SECTIONS IN EACH OF THE FOUR TESTS

SECTION	SCHOOL AND GRADE*	NUMBER OF PUPILS	NUMBER OF POSSIBILITIES FOR MISSPELLINGS	NUMBER OF WORDS MISSPELLED			
				First Test	Second Test	Third Test	Fourth Test
1	G VII A	29	725	420	64	142	173
2	G VII B	44	1,100	328	36	107	65
3	G VI A	30	660	320	36	96	121
4	G VI B	37	814	292	25	88	112
5	W VI B1	27	594	212	41	99	107
6	W VI B2	27	594	98	8	17	37
7	L V A1	26	572	93	21	33	41
8	L V A2	24	528	212	64	152	149
9	G V B1	24	528	219	45	79	99
10	G V B2	23	509	311	136	135	199
11	W V B1	31	713	496	125	173	206
12	W V B2	35	805	214	58	46	73
13	L V B2	20	460	190	56	123	136
14	L V B3	23	529	303	121	178	244
15	R IV A1	23	506	236	131	189	117
16	R IV A2	26	572	76	39	42	39
17	W IV B1	20	440	253	123	165	178
18	W IV B2	32	704	370	218	244	251
19	R IV B2	26	572	215	55	50	31
20	H IV B2	26	572	169	69	78	92
21	W III B1	30	630	577	506	517	511
22	W III B2	30	630	372	207	197	144
23	H III B1	33	693	144	37	36	60
24	H III B2	21	441	196	76	107	136
25	R III B2	27	567	333	194	212	213
Total	.....	694	15,458	6,649	2,491	3,305	3,534

* The first letter in this column indicates the school in which the section was located; the Roman numeral and the second letter combined indicate the grade level; and the Arabic number indicates the ability level.

at any time during the week of study and who took all the tests were assembled. From these data were determined the total number of words misspelled on each of the four tests by each section and the total number of words misspelled by all sections. These totals are shown in Table I. This table also shows the number of pupils in each section from whom data were accepted, as well as the total number of

possibilities for misspellings. The number of possibilities varies with the number of pupils and with the number of words in the lists, which varies from grade to grade. Table I should be read as follows:

TABLE II

SCORE OF EACH OF THE TWENTY-FIVE SECTIONS ON EACH OF THE FOUR TESTS, PERCENTAGE OF IMPROVEMENT BETWEEN THE FIRST AND SECOND TESTS, AND PERCENTAGES OF RETENTION SHOWN BY THE THIRD AND FOURTH TESTS

Section	School and Grade	Number of Pupils	Score on First Test	Score on Second Test	Percentage of Improvement	Score on Third Test	Percentage of Retention after One Month	Score on Fourth Test	Percentage of Retention after Four Months
1	G VII A	29	43	91	112	80	88	76	84
2	G VII B	44	70	97	39	90	93	94	97
3	G VI A	30	52	95	83	85	89	82	86
4	G VI B	37	64	97	52	89	92	86	89
5	W VI B1	27	64	93	45	83	89	82	88
6	W VI B2	27	84	99	18	97	98	94	95
7	L V A1	26	84	96	14	94	98	93	97
8	L V A2	24	60	88	47	71	81	72	82
9	G V B1	24	59	91	54	85	93	81	89
10	G V B2	23	39	73	87	73	100	61	84
11	W V B1	31	30	82	173	76	93	71	87
12	W V B2	35	73	93	27	94	101	91	98
13	L V B2	20	59	88	49	73	83	70	80
14	L V B3	23	43	77	79	66	86	54	70
15	R IV A1	23	53	74	40	63	85	77	104
16	R IV A2	26	87	93	7	93	100	93	100
17	W IV B1	20	43	72	67	63	88	60	83
18	W IV B2	32	47	69	47	65	94	64	93
19	R IV B2	26	62	90	45	91	101	95	106
20	H IV B2	26	70	88	26	86	98	84	95
21	W III B1	30	8	20	150	18	90	19	95
22	W III B2	30	41	67	63	69	103	77	115
23	H III B1	33	79	95	20	95	100	91	96
24	H III B2	21	56	83	48	76	92	69	83
25	R III B2	27	41	66	61	63	95	62	94
All sections		694	57	84	47	79	94	77	92

Twenty-nine pupils in Section 1 (G VII A—a high seventh grade in School G) had a total of 420 misspellings out of a possible 725 on the first test, 64 on the second test, 142 on the third test, and 173 on the fourth test.

Table II is derived from Table I. Columns 4, 5, 7, and 9 show the scores of the sections before and after study and the scores on the retests. These scores were determined by subtracting from 100 per

cent the percentage the number of misspellings is of the number of possibilities. These scores, then, are the percentages which the correct spellings are of the possibilities. The percentage of improvement is the percentage by which the score on the second test exceeds the score on the first test. The percentages of retention after one month and after four months are the percentages the scores on the third and fourth tests, respectively, are of the score on the second test.

Table II should be read as follows: Section 1 (G VII A, composed of twenty-nine pupils in the high seventh grade in School G), made a score of 43 on the first test, which was given before study. After a week's study this section made a score of 91 on the second test, an improvement of 112 per cent. On the third test, given one month later, the section made a score of 80, or 88 per cent of the score made on the second test, given immediately after study. On the fourth test, given four months after the second test, the section made a score of 76, or 84 per cent of the score made on the second test, given immediately after study.

A detailed study of Table II shows several interesting conditions.

1. The scores of the twenty-five sections on the first test, given before study, range from 8 to 87. Thus, the pupils in one section spelled so poorly on the first test that only 8 per cent of the words attempted were correct. It would appear that those pupils had a tremendous task ahead of them—an almost hopeless task. The teacher of a section with such a record should seriously consider the problem that the situation presents and, in consultation with the supervisors, attempt to determine and to overcome the causative conditions. It may have been that Section 16 (R IV A2), with a score of 87 on the first test, was working with a list of words of insufficient difficulty, presenting but little challenge for earnest efforts at improvement. The score for all sections on the first test is 57.

2. The scores on the second test, given after study, range from 20 to 99, the score for all the sections combined being 84. These scores show that 100 per cent mastery did not result for all pupils in any section after the week's work. Nevertheless, the work of most of the sections was very satisfactory. Those with low scores were, with one exception, sections composed of retarded pupils. It is evident that these sections should have been working with words of less difficulty.

Section 21 (W III B1), with a score of 20, of course, was far short of mastery. Although this section made remarkable improvement (150 per cent), its score is so low that there can be no question that the words were too difficult.[1] It is interesting to note that Section 16 (R IV A2), which made the highest initial score, made the least improvement. Without doubt, this section should have scored nearly perfect after study.

3. Columns 7 and 8 of Table II show the scores made on the third test, given one month after the second test, and the percentages of retention of ability. The percentage of retention for all sections (94) may be considered very good. In a study of twenty-eight pupils Martha J. Fulton found that in one case there was a drop in correctness after three weeks from 98 per cent to 96 per cent, with a percentage of retention of 98, and that in another case there was a drop from 73 per cent to 68 per cent, with a percentage of retention of 93.[2] Columns 7 and 8 of Table II also show that, without further study except an occasional repetition of a word in the list for monthly review, Sections 12 (W V B2), 19 (R IV B2), and 22 (W III B2) made better scores after four weeks than at the end of the first week. The greatest loss of ability was in Section 8 (L V A2), a section of average ability, which had a percentage of retention of 81. In only eight sections—Sections 1 (G VII A), 3 (G VI A), 5 (W VI B1), 8 (L V A2), 13 (L V B2), 14 (L V B3), 15 (R IV A1), and 17 (W IV B1)—does the percentage of retention fall below 90. Section 6 (W VI B2)—the section with the highest score on the third test—retained 98 per cent of its ability; Section 21 (W III B1)—the section with the lowest score on the third test—retained 90 per cent of its ability. These two were the sections which had had the highest and lowest scores a month earlier.

4. In Columns 9 and 10 of Table II are shown the scores of the sections on the fourth test, which was given four months after the second test, and the percentages of retention. The percentage of re-

[1] As a result of the evidence secured in this investigation, the author devised a test-study-test spelling tablet (*The Laidlaw Test and Exercise Book in Spelling*. Chicago: Laidlaw Bros., 1928.), which facilitates supervision of instruction in spelling and furnishes data which may be used for recommending adjustments of word difficulty for advanced or retarded sections.

[2] Martha J. Fulton, "An Experiment in Teaching Spelling," *Pedagogical Seminary*, XXI (June, 1914), 288.

tention for all sections is 92, a loss of two points during the three months. Six sections—Sections 2 (G VII B), 8 (L V A2), 15 (R IV A1), 19 (R IV B2), 21 (W III B1), and 22 (W III B2)—made better scores on the fourth test than on the third test. Three of the six sections—Sections 15 (R IV A1), 19 (R IV B2), and 22 (W III B2)—made better scores on the fourth test than on the second test. Although the teachers of these sections insisted that there had been no further study, it is somewhat difficult to find other explanations for the improvement. The percentages of retention of twelve sections are below 90 on the fourth test. Section 14 (L V B3), which had the lowest percentage of retention (70), was a much retarded section. The score for this section on the fourth test is only 11 points higher than the score on the first test, given before study. The pupils in Section 21 (W III B1), which made poor scores both before and after study, evidently mastered effectively those words which they succeeded in learning, for the score of 19 on the fourth test is only one point less than the score on the second test.

From these data several conclusions may be drawn.

1. A pretest and study of a list of words for a week do not produce 100 per cent mastery in ordinary sections in East Chicago. Although some pupils in many sections spelled perfectly after the week's study and some sections approached perfection, the average fell short of the ideal. However, in most instances the spelling of the sections was creditable and acceptable. It is possible that the achievement of the sections which were studied would have been greater had a selection of lists of words from different grade levels been made that would have adjusted their difficulty to the varying abilities of the different sections.

2. Retention of ability in spelling acquired by the test-study-test method is very good. After lapses of one month and of four months the percentages of retention for the sections studied are 94 and 92, respectively.

3. There are evidences of a need for careful direction of the instruction in spelling. Without supervisory guidance some teachers fail to make curricular adjustments that are necessary for the most successful presentation of the work. Hence, it is advisable to use a type of spelling tablet which will readily indicate the progress of the pupils' work.

Educational Writings

REVIEWS AND BOOK NOTES

The education of women in the United States.—The history of education in the United States cannot be written satisfactorily until a great many special studies have been made. Too many histories of education have been general studies based on existing secondary accounts. In such works not a great deal of new truth is presented. Thorough and painstaking investigations of special phases of educational history are needed.

A recent two-volume work[1] by Professor Thomas Woody is a detailed and exhaustive account of the education of women in the United States from early Colonial days to the present time. No aspect of the education of women, it seems, has been neglected. Moreover, the author does not confine his attention to the education of women in any narrow sense. The story of women's education is told against the background of their social and economic status. Indeed, the work may be regarded as an account of the social and economic, as well as intellectual, emancipation of women.

The author begins with an account of the conception of woman's position in society and of her education in other lands. Next he traces the changing conception of woman's position and education in the United States. Chapters follow dealing with the education of girls in early New England, the Middle Colonies, and the South. Attention is given next to the new concept of women's education which developed in the late colonial and early national periods, to the rise of female academies and seminaries, and to women's entrance into the teaching profession. The first volume closes with a chapter devoted to the secondary education of girls.

The first chapter of the second volume discusses in some detail the changing economic status of women. One chapter is devoted to each of the following topics: vocational education, physical education, colleges for women, coeducation, co-ordinate colleges for women, higher professional education, emancipation and education, and the woman's club movement and education.

The work has many merits. It is exhaustive and detailed; it has an air of finality about it. The final bibliography alone covers 108 pages. In this exhaustive treatment lie both the merits and the demerits of the work. The

[1] Thomas Woody, *A History of Women's Education in the United States:* Volume I, pp. xvi+608; Volume II, pp. xii+646. Science and Education, Volume IV, Books I and II. Lancaster, Pennsylvania: Science Press, 1929.

general reader may wish that the author could have told his story in less than thirteen hundred pages. Even the specialist may now and then grow a little weary in getting at the heart of the matter. In any case, however, Professor Woody has placed under obligation to him all those who may be interested in the history of the intellectual emancipation of women.

I. N. EDWARDS

A basic textbook on elementary-school supervision.—The futility of trying to complete the training of a teacher while she is in a teacher-training institution has long been recognized. Improvement should be continuous after the teacher enters service. A recent book[1] by Clarence R. Stone is an important contribution to the solution of the problem of improving the work of teachers in service.

A fundamental point of view evident throughout the book is that the principal will do most of the supervising. This point of view is, of course, in keeping with the facts in the small school, which is not likely to have a staff of special supervisors. It raises the question, however, in connection with the larger schools as to the extent to which the supervisory and administrative functions should be separated. The author's point of view would seem to favor a unification of the two functions in the principal but such a separation of them that the principal acting in his supervisory capacity does not regard himself as primarily an inspector or boss.

The program as outlined would involve a very decided professionalization of the principal's work and a noticeable elevation of it out of the routine state. It would involve transferring a great deal of the principal's interest and effort from administrative duties, where results are tangible, to supervisory duties and the improvement of instruction, where results so far have not been easily visualized.

The first six chapters are devoted to the general principles and problems of supervision and to the setting-up of a program of supervision. The titles of these chapters are "Objectives in Supervision of Instruction," "Making the Principalship Function in Supervision," "The Problem of Time for Supervision on the Part of the Principal," "Co-operation of the Principal and Other Supervisors," "Supervisory Ideals, Methods, Technique, and Means," and "Standards Related to General Method and Certain Phases of Teaching."

Following these basic general chapters is a series of twelve chapters devoted to the supervision of instruction in the different subjects: arithmetic, reading, language, spelling, handwriting, social studies, physical education, health education, elementary science, music, art, and citizenship.

An important part of each chapter on the supervision of a particular subject is a list of standards for good instruction in the subject. These standards are concrete, vital, and helpful. They are really summaries of the results of the scientific work that is being done on the teaching of the subject in so far as our

[1] Clarence R. Stone, *Supervision of the Elementary School.* Boston: Houghton Mifflin Co., 1929. Pp. xx+574. $2.50.

scientific knowledge relates to methods of teaching. Each standard is stated in a few lines and is discussed at some length in a paragraph or more. Illustrations of these standards will make clear the nature of the author's contribution. The first four of the thirty standards for arithmetic instruction are as follows:

1. For motivation the teacher should depend upon immediate interest in the content and the mental activity, upon the functional use of arithmetic in other activities, upon satisfaction in progress as revealed in measured achievement, and upon problem situations involving a high interest appeal [p. 146].

2. Assignment of arithmetic work merely to keep children busy, requirements of unreasonable amounts of work, and over-pedantic requirements in written work tend to cause pupils to dislike arithmetic [p. 147].

3. Requiring pupils to copy examples and exercises from the text or blackboard is an obstacle to motivation, involving unnecessary labor and strain upon the eyes [p. 147].

4. Experience, realness, and concreteness are fundamental in developing meanings in arithmetic [p. 148].

Each chapter includes an analysis blank arranged for the principal's use in observing and evaluating the work of the teacher. This blank is in reality a teacher-rating blank, and the various items on the blank correspond to the standards for instruction in the particular subject. Thus, the principal would evaluate an item by writing a zero to signify no evidence, a check mark for satisfactory, a minus sign if the teacher needs help on the particular point, and a plus sign for special commendation and relay to other teachers. It would seem that this procedure would help very greatly to give supervision definiteness, order, and system. It takes supervision out of the realm of guess, whim, or chance and puts it on a business-like basis.

Each chapter also treats such other aspects of supervision as the school program in the particular subject, diagnosis in helping the teacher, and the making of a supervisory survey. At the end of the chapter are problems for study, reports, and discussion, and selected references.

The reviewer's general estimate is that the book is one of major importance and that it is destined to have a very vital influence on the quality of the instruction in the elementary school.

C. C. CRAWFORD

UNIVERSITY OF SOUTHERN CALIFORNIA

New material on the visiting teacher.—The visiting-teacher movement, which has undergone remarkable growth in recent years, has developed under the supervision of several enlightened agencies that have understood the need of studying with care the progress of a new type of educational activity. The latest report,[1] *The Visiting Teacher at Work* by Jane F. Culbert, which is a

[1] Jane F. Culbert, *The Visiting Teacher at Work*. New York: Commonwealth Fund, 1929. Pp. xvi+236. $1.50.

systematic exposition based on data from various kinds of schools in thirty communities in different parts of the country, is one of the most informing that has been issued.

Part I is entitled "Work with the Child." Chapter i is concerned with the activities of the visiting teacher in dealing with the child in school. This chapter includes a list of the types of problems encountered by visiting teachers and the frequency of each type, a list of the sources of reference, a list of the factors in the children themselves which are considered in diagnosis and plans of treatment, and a list of the favorable and unfavorable factors in school life. The procedure of the visiting teacher in securing information through the school and through the child and the constructive suggestions which she is able to make are fully described. Throughout the discussion free use is made of illustrative incidents and details. In chapters ii and iii home situations and community factors are treated in a similar manner.

Part II treats in four chapters the professional standards and relationships of the visiting teacher. The first chapter, chapter iv, is concerned with relations with the school staff. Attention is given to the necessity on the part of the visiting teacher of explaining to the principal and the teachers the nature and purpose of visiting-teacher work when it is first introduced in a school, of avoiding common sources of friction, and of understanding the school system and its problems. The kinds of cases to select for treatment and the most common difficulties encountered in beginning the work are discussed as well as how the visiting teacher may co-operate with various school specialists, such as psychologists, attendance officers, nurses, and vocational counselors. In chapter v, "Supervision and Administration," the relation of the superintendent to the work of the visiting teacher, the scope and organization of this work, and the salary and working conditions are discussed.

Several types of records and their value from various points of view are described in chapter vi. In the last chapter, chapter vii, is a full statement of the training in different fields that is needed in preparation for visiting-teacher work. Ten appendixes follow. Several of the appendixes present case-history and report forms, some of them filled out with illustrative entries, while others include reproductions of a school bulletin, posters, time schedules, and an annual report. A bibliography on visiting-teacher work and a book list for visiting teachers make up two of the appendixes.

The book is well organized, and the style is clear and non-technical. The book is indispensable to visiting teachers in training and in service. School officers who co-operate in the work of such teachers and all other educational workers who are interested in the problem child will find it a source of useful information.

PAUL W. TERRY

UNIVERSITY OF ALABAMA

A reorganization of material for social science.—An Introduction to American Civilization,[1] advertised by the publishers as "one of the most extensive pieces of educational research ever undertaken," presents in book form the results of the evolution through which the author's Social Science Pamphlets passed. Its unique contribution as contrasted with the contents of the many social-science textbooks now on the market is the attempted unification of history, geography, and civics. To defend his procedure, the author declares:

> To understand any institution or condition of life today, the mind must utilize facts, meanings, generalizations, and historical movements that in the past have been set up in separate school subjects. For example, to understand the Westward Movement of the American people, one must see in close relationship the tide of immigration across the continent; the blazing of trails; the evolution of new land and waterways; the rapid development of new types of transportation; constantly changing forms of social life; the rise of cities behind the advancing frontier; the influence of mountains, deserts, climate, rivers, and soil upon travel, transportation, and communication; and where and how people live. All these factors must be tied closely together in their natural relationships [pp. iv–v].

With this statement good history teachers would not disagree. Such teachers have for many years been doing what the author advocates. In presenting the Westward Movement, they have always pointed out the political influences potent in the expansion of America.

The author makes such statements as the following: Whenever "history is needed to understand the present, history is presented"; whenever "geographic relationships are needed," they are incorporated; and whenever economic and social facts and principles will serve to enlighten, they, too, are included. He assures teachers that the book will really give pupils an understanding of the "significant contemporary problems of living together."

In keeping with the principles thus announced, the author devotes more than one-half of the book to the chief causes of the high standard of living in the United States. In developing his thesis, he uses as illustrative causes "our location in a stimulating and productive climate"; "our vast size and great natural wealth in soil, coal, iron, and other resources"; and "the many ways in which scientific knowledge has been applied in producing vast amounts of coal, oil, and other natural resources, and of manufactured goods, as well as in developing swift and efficient means of transportation and communication." The remainder of the book deals with racial and national groups in the United States, the need for men as well as machines in creating a productive community, the Industrial Revolution, the Commercial Revolution, the chief sections of the United States, American trade, and interdependence in the modern world.

The book opens with an interesting section, which will awaken the imagination of the pupil by calling to his attention the marvels of the present in con-

[1] Harold Rugg, *An Introduction to American Civilization:* A Study of Economic Life in the United States. Boston: Ginn & Co., 1929. Pp. xiv+610. $1.92.

trast with the drab conditions of 1800. The style is exclamatory and occasionally anecdotal. Sometimes it is far too difficult for the junior high school pupil. Transitions from topic to topic are attempted by italicized statements preceding the main discussions, but even with this device unity of thought is not always apparent. Frequently a subject is introduced by a question followed by a direct answer. The reader is thus made conscious of an ever-present didactic purpose. The author tends to generalize rather than to be specific in many of his statements, as in the discussion of inventors and textile machinery. A too generous use of statistical material makes the subject matter more suitable for supplementary material in the senior high school than for a basal textbook in the junior high school. The author's emphasis on our "comfortable standard of living," America as "the rich man of the earth," and comparison of the United States with other countries will surely catch the favor of exponents of a textbook similar to the American Legion history. The summaries which conclude the units are quite to the point, and the graphs and illustrations are effective. The statistical material in the Appendix offers much information but will be useful chiefly to the teacher.

The author would have rendered a useful service to teachers trying to emancipate themselves from the old, dry-as-dust textbooks had he really accomplished what he set out to do. No teacher of history who is a student of his subject will find much history in the book; nor can he accept the book if he expects to teach history. The book deals chiefly with economic and geographic factors and would perhaps serve the present-day demand for a textbook in social and economic geography, although the geographer might possibly disclaim it. It contains little of the political, social, and cultural aspects of life, which surely should be included in a book that claims to present "history, geography, civics, economics, government, etc.," combined into "one general course."

BESSIE LOUISE PIERCE

A book for parents on the training of children.—The theory that the mere biological fact of parenthood automatically qualifies parents for the training and rearing of their children is being rapidly discarded. The great majority of progressive and enlightened parents now realize the need of special knowledge and training in psychology, biology, and education in order to perform their duties as parents effectively. Florence Mateer has produced a book[1] which should be of great value to such enlightened parents, providing them with the necessary guidance in dealing with the problems involved in the training of their children.

The book is written in a style very different from that of the usual professional textbook in education. It is a series of questions and answers grouped roughly into chapters according to types of behavior problems. Each chapter

[1] Florence Mateer, *Just Normal Children*. New York: D. Appleton & Co., 1929. Pp. xiv+294. $2.00.

begins with a case. A particular child and his behavior problems are described in order to provide a concrete basis for discussion. Several pages of questions and answers follow, the questions being answered in paragraphs ranging in length from one or two lines to approximately a page. This style of presentation is exceedingly effective and makes the book very well adapted to use by parents outside of school and by college classes.

The first few chapters are of a basic type, intended to provide the proper point of view. The remaining chapters have such titles as "Polly Would Not Sleep," "Joan Would Not Eat," "Melissa Is Lazy," "Robert Did Not Talk Normally," "Phyllis Could Not Concentrate," "Elisabeth Ann's Lies," "Berta and Walter, Property Acquirers," "Felicity April Runs Away," "Babette, Trouble Maker," and "Patsy Learns about Life."

The book meets a fundamental need and meets it well. Teachers, psychologists, and educational workers should be familiar with it and should recommend it to parents of children in school. If this book could be put into the hands of parents and read carefully by them, a great deal of home co-operation in the solution of behavior problems could be accomplished. Such co-operation would be a vital factor in increasing the effectiveness of the work of the school, but this advantage would be merely a by-product in comparison with the tremendous service rendered to childhood outside of school.

C. C. CRAWFORD

UNIVERSITY OF SOUTHERN CALIFORNIA

A "popular" psychology.—The fad of so-called "popular" books which has been noticeable in the fields of philosophy, history, and the sciences is evident in the field of psychology in a recent book[1] by O'Shea. This book apparently attempts to bring together the findings in child psychology and to present them in a non-technical style, which is designed to attract readers from the non-professional field. The teacher or the parent who has had any training in psychology will not find much in the book that is either new or of value. On the other hand, for one who knows little or nothing of the findings of modern psychology the book might have some value. There is danger, however, that, in attempting to popularize the subject, the author has disregarded some of the real contributions of psychology.

The way in which the book is organized has decided advantages and equally decided disadvantages. There is no set organization, with chapters devoted to various subjects. The author has divided the book into three main parts and in each of these parts has included many "topics," several pages being devoted to each "topic." This system of many discussions, each with a separate title, has an advantage in that it facilitates the location of material on a specific subject. For instance, a parent with an obstinate child can find "Headstrong Chil-

[1] M. V. O'Shea, *Newer Ways with Children.* New York: Greenberg, Publisher, Inc., 1929. Pp. x+420. $3.50.

dren" as a separate topic. The method of treatment, however, makes the book seem very disorganized to one reading it and makes repetition practically necessary.

The author attempts to explain a great deal of the behavior of children on the ground that, since the race at one time went through certain stages, the child must go through corresponding periods of behavior at some time before he reaches maturity. This explanation of the behavior of children will undoubtedly be challenged from all sides, and it leads the reader who does not agree with the author to believe that the book is not founded on a firm basis.

The book can hardly be said to be a real contribution to the literature of child psychology. To those who read only the "popular" books, it may prove to be of interest.

RUTH COPE

New materials in history for the intermediate grades.—During the recent past a body of historical material adapted to Grades IV, V, and VI has been published which is full of interesting possibilities. Judging from the trend exhibited in this material, one concludes that the old biographical approach to historical materials for the intermediate grades has had its day. Children in these grades who are fortunate enough to have access to the new materials will be relieved from the dry matter-of-fact biographies of heroes of the past—material which was neither good history nor worth-while biography, material that soon became tiresome to the reader because of its dead level of presentation.

Two very hopeful series that have recently appeared are the Social Studies Series[1] and the Story of America series.[2] The former series contains the content that Superintendent Washburne and his associates feel necessary to fulfil the requirements dictated by the objective investigation which they conducted a few years ago to determine the content of the course of study in the social studies for the intermediate grades. The reader of the books in this series who does not know that an investigation was once made will discover the fact from their content.

In the second series mentioned four books have appeared. Others will be published from time to time. While these books appear in a series, each book is complete in itself and may be used without reference to the rest of the series. The title of each book in the series indicates its content. This statement applies also to the Social Studies Series.

[1] Louise Mohr, *Egyptians of Long Ago*, *Days before Houses*, and *Babylonia and Assyria*. Edited by Carleton Washburne and Willard W. Beatty. Chicago: Rand McNally & Co., 1926, 1928, 1928. Pp. 154, 90, 92.

[2] *a*) Ramon Coffman, *The Age of Discovery*, *New World Settlement*, and *Growth of the Colonies*. Dansville, New York: F. A. Owen Publishing Co., 1927, 1927, 1928. Pp. 128, 128, 142.

b) L. Morton Tillinghast and Edna M. Colman, *Colonial Life in America*. Dansville, New York: F. A. Owen Publishing Co., 1928. Pp. 128.

Four books were published in 1929 that could be thought of as forming two series although they do not. Two[1] of these books contain material on Old World history, and the other two,[2] material on the history of America since 1607. It will be observed from the titles of the four books that they contain an almost straightforward story from early times to the present. They are all attractive and contain new and worth-while historical material. The books by McGuire and Phillips are of special interest to one who is not a worshiper of the old biographical approach to history for Grades IV, V, and VI.

Three other books were published during 1929 which contain historical material for the intermediate grades. One[3] of these books is the first of a series which Assistant Commissioner of Education James Sullivan, of New York, is editing. It is the purpose of this series to acquaint young children with the histories of other people. Another[4] of the three books also belongs to a series, namely, Halleck's American History Series. Inasmuch as this series was begun some years ago, one is not surprised to find the authors harking back to the report of the Committee of Eight. With a few unimportant changes, the book adheres pretty closely to the content recommended in 1908 by the famous Committee of Eight of the American Historical Association. The third book[5] represents an adventure in the right direction. In it one finds interesting and well-told stories of men who found America. The entire book is devoted to the period of exploration and discovery. If the authors expect to publish books on other periods of our history, they make no mention of the fact in the Preface.

R. M. TRYON

Relation between familiarity with the examiner and performance on intelligence tests.—In a recent study[6] three groups of children of about six years of age, varying in number from thirty-two to forty-eight, were tested by means of the Stanford-Binet scale. Each group was given two group intelligence tests and divided into two smaller groups having approximately equal scores on these

[1] Marion G. Clark and Wilbur F. Gordy, *The Early Story of Mankind* and *What Men from Europe Brought to America*. New York: Charles Scribner's Sons, 1929. Pp. 214, 254.

[2] Edna McGuire and Claude Anderson Phillips, *Building Our Country* and *Adventuring in Young America*. New York: Macmillan Co., 1929. Pp. x+362, xii+370.

[3] Henry Smith Chapman, under the editorship of James Sullivan, *Stories of the Ancient Peoples:* A Primary History. Boston: Houghton Mifflin Co., 1929. Pp. vi+170. $0.80.

[4] Reuben Post Halleck and Juliette Frantz, *Founders of Our Nation*. Chicago: American Book Co., 1929. Pp. vi+320. $0.88.

[5] Olive E. Smallidge, with the collaboration of Frederic L. Paxson, *Finding America:* An Elementary History. Boston: Houghton Mifflin Co., 1929. Pp. viii+284. $0.96.

[6] Edith Lucile Marine, *The Effect of Familiarity with the Examiner upon Stanford-Binet Test Performance*. Teachers College Contributions to Education, No. 381. New York: Teachers College, Columbia University, 1929. Pp. 42. $1.50.

tests. The experimenter then associated with the children in one of each pair of smaller groups until she had established rapport. She then tested all the children. No significant difference was found between the intelligence quotients of those who were acquainted with the examiner and the intelligence quotients of those who were not acquainted with the examiner.

FRANK N. FREEMAN

The relation of the child to society.—The profound changes which have been going on in the evolution of social organization must be considered in great seriousness by the public school. It is extremely important that educators give full consideration to the sociological changes which affect the relation of the individual to society as a whole. A stimulating discussion of this relation is found in a book[1] by Edward N. Clopper which is devoted primarily to problems of the social worker in dealing with children. Dr. Clopper introduces the book with some familiar sociological concepts and then traces the evolution of the family through a series of changes up to the present period. His point of view is summarized in the following quotation.

> As the individual has gradually acquired rights and has entered upon their exercise, taking up the responsibilities they have entailed, the strength of the family has declined, and we no longer have so influential and self-sufficient a family life as formerly. At the same time, while the strength of the family as the social organization has apparently waned, the relations of the individual to society in general have waxed. This is an effect that would normally be expected, for, as society is resolved into its final elements (the individuals of which it is composed), the functions of these individuals in their social life become more and more clearly defined and their relations to one another more systematically arranged. The individual finds his place as a part of the social whole, and his relationship to the social order ultimately assumes a greater importance than his relationship to his immediate family [p. 29].

The school is likely to be affected by any changes which occur in the family unit, especially changes which involve children between three and six years of age. These ages are commonly designated as "preschool" ages. There is considerable reason to question the appropriateness of the term "preschool," since in many places the school has already taken over the care of children prior to the age of six. The question of the desirability of transferring educational functions relating to the child's early life from the home to the school must be answered with full regard to the larger issues relating to the evolution of the family as a unit of the general social group.

Dr. Clopper's discussion of the adaptation of the individual to the social groups larger than the family is also one which will undoubtedly require increasing consideration by educators.

There is a series of chapters on such topics as the status of children, dependency, juvenile delinquency, child labor, and mental hygiene, the book being concluded with a general discussion of the child and the state and the characteristics of desirable social work.

[1] Edward N. Clopper, *Society and the Child.* Boston: Richard G. Badger, Publisher, 1929. Pp. 208.

While the book has no particular value as a textbook for class use, it is well worth reading by school administrators as well as social workers. It serves to emphasize the desirability of giving adequate consideration to the sociological aspects of certain problems of education.

G. T. BUSWELL

An inspirational guide for teachers of art in the elementary school.—It is gratifying to find a growing list of books dealing with the problems of public-school instruction in art by authors who are thorough students of education. A new publication[1] dealing with the elementary-school program in art will be welcomed by teachers desiring a sound educational background as a basis for the course of study in art.

The book is the product of a teacher and administrator who is progressive and who considers art not merely "drawing" but a subject rich in possibilities for the development of attitudes, interests, ideals, and appreciations having direct application to the classroom experiences and the life-needs of the child. The author is familiar with actual school problems and at the same time is fully conscious of the present-day needs of society with respect to art education.

The book contains ten chapters. The first two are devoted to a concise statement of the purpose and aim of modern art education. The next seven chapters ably discuss the technique of teaching drawing, design, color, lettering, construction or industrial art, and art appreciation. The concluding chapter presents a helpful digest of the curriculum in art.

Throughout the book diagnostic procedures are suggested as a substitute for guesswork in evaluating the results of instruction. Remedial measures for the improvement of pupil attainment are made possible by the educational treatment of activities in art.

The author is an ardent advocate of free creative expression. She believes in adjusting school work to the individual needs of pupils. She does not, however, overlook the need of a systematic organization of the program of instruction in art. She is utterly out of sympathy with the wasted effort and unproductive experimentation which frequently appear in the so-called "child-centered" schools.

The book makes provision for individual differences of pupils and for varying classroom needs. At the same time it offers a well-balanced sequence of exercises and projects for the progressive development of pupil accomplishment in art throughout the grades. The book presents a curriculum which eliminates the "fads and frills" of art instruction. It incorporates the best modern practices of teaching and at the same time retains the sound, proved material of art education. It will accomplish much for the promotion of effective teaching in art in Grades III–VI.

WILLIAM G. WHITFORD

[1] Margaret E. Mathias, *Art in the Elementary School.* New York: Charles Scribner's Sons, 1929. Pp. xvi+180.

CURRENT PUBLICATIONS RECEIVED

GENERAL EDUCATIONAL METHOD, HISTORY, THEORY, AND PRACTICE

BAIRD, DON O. *A Study of Biology Notebook Work in New York State.* Teachers College Contributions to Education, No. 400. New York: Teachers College, Columbia University, 1929. Pp. viii+118. $1.50.

BEATTIE, JOHN W., MCCONATHY, OSBOURNE, and MORGAN, RUSSELL V. *Music in the Junior High School.* Newark, New Jersey: Silver, Burdett & Co., 1930. Pp. vi+250. $2.00.

BISHOP, EUGENE ALFRED. *The Development of a State School System: New Hampshire.* Teachers College Contributions to Education, No. 391. New York: Teachers College, Columbia University, 1930. Pp. 160. $1.75.

BRESLICH, ERNST R. *The Teaching of Mathematics in Secondary Schools:* Volume I, Technique. Chicago: University of Chicago Press, 1930. Pp. viii+240. $2.00.

FARGO, LUCILE F. *The Library in the School.* Chicago: American Library Association, 1930. Pp. xxvi+454. $3.00.

GARRETSON, OLIVER KELLEAM. *Relationships between Expressed Preferences and Curricular Abilities of Ninth Grade Boys.* Teachers College Contributions to Education, No. 396. New York: Teachers College, Columbia University, 1930. Pp. 78. $1.50.

JONES, ARTHUR J. *Principles of Guidance.* New York: McGraw-Hill Book Co., Inc., 1930. Pp. xxiv+386. $3.00.

MCALLISTER, JANE ELLEN. *The Training of Negro Teachers in Louisiana.* Teachers College Contributions to Education, No. 364. New York: Teachers College, Columbia University, 1929. Pp. vi+96.

MONROE, WALTER S., DEVOSS, JAMES C., and REAGAN, GEORGE W. *Educational Psychology.* Garden City, New York: Doubleday, Doran & Co., Inc., 1930. Pp. xiv+608. $2.50.

PETERS, CHARLES CLINTON. *Foundations of Educational Sociology.* New York: Macmillan Co., 1930 (revised). Pp. xvi+476. $2.50.

POWELL, JESSE JEROME. *A Study of Problem Material in High School Algebra.* Teachers College Contributions to Education, No. 405. New York: Teachers College, Columbia University, 1929. Pp. 100. $1.50.

PRESCOTT, DANIEL ALFRED. *Education and International Relations:* A Study of the Social Forces That Determine the Influence of Education. Harvard Studies in Education, Volume 14. Cambridge, Massachusetts: Harvard University Press, 1930. Pp. x+168. $2.50.

RUCH, G. M., and RICE, G. A. *Specimen Objective Examinations.* Chicago: Scott, Foresman & Co., 1930. Pp. vi+324.

SHANG, CHUNG I. *A Method of Selecting Foreign Stories for the American Elementary Schools:* Applied to the Evaluation of Stories Translated by the Author from the Chinese Folk Literature. Teachers College Contributions

to Education, No. 398. New York: Teachers College, Columbia University, 1929. Pp. 46.

The Superintendent Surveys Supervision. Eighth Yearbook of the Department of Superintendence. Washington: Department of Superintendence of the National Education Association, 1930. Pp. 472. $2.00.

Towards a New Education: A Record and Synthesis of the Discussions on the New Psychology and the Curriculum at the Fifth World Conference of the New Education Fellowship Held at Elsinore, Denmark, in August, 1929. Edited by William Boyd assisted by Muriel M. Mackenzie. New York: Alfred A. Knopf, 1930. Pp. xviii+498. $3.50.

BOOKS PRIMARILY FOR ELEMENTARY-SCHOOL TEACHERS AND PUPILS

BARR, HENRIETTA C., and DREW, MINA P. *The Nest.* Boston: Marshall Jones Co., 1930. Pp. 58.

CARPENTER, FRANCES. *The Ways We Travel.* Chicago: American Book Co., 1929. Pp. xiv+298. $0.92.

JONES, LLOYD L., and BERTSCHI, LLOYD. *General Business Science.* New York: Gregg Publishing Co., 1930. Pp. xvi+604.

JONES, LLOYD L., and BERTSCHI, LLOYD. *Projects in Business Science for Use with the Text "General Business Science,"* Part I and Part II. New York: Gregg Publishing Co., 1930.

MARSHALL, THOMAS M., and WESLEY, EDGAR BRUCE. *American History Workbook:* Section One, pp. 102+xxiv, $0.68; Section Two, pp. 91–184+xxii, $0.68. New York: Macmillan Co., 1930.

QUENNELL, MARJORIE, and QUENNELL, C. H. B. *Everyday Life in Homeric Greece.* New York: G. P. Putnam's Sons, 1930. Pp. xviii+194. $2.50.

STUDEBAKER, J. W., KNIGHT, F. B., and FINDLEY, W. C. Standard Service Arithmetic Flash Cards: Class Set 1 (Addition), Class Set 2 (Subtraction), Class Set 3 (Multiplication), Class Set 4 (Division), Individual Set 5 (Addition and Subtraction), Individual Set 6 (Multiplication and Division), Teacher's Manual. Chicago: Scott, Foresman & Co., 1930.

VAN BUSKIRK, EDGAR F., and SMITH, EDITH LILLIAN, assisted by WALTER L. NOURSE. *The Science of Everyday Life.* Boston: Houghton Mifflin Co., 1930 (revised). Pp. xviii+620. $1.60.

Wonder Flights of Long Ago. Edited by Mary Elizabeth Barry and Paul R. Hanna. New York: D. Appleton & Co., 1930. Pp. viii+220. $1.00.

PUBLICATIONS OF THE UNITED STATES OFFICE OF EDUCATION AND OTHER MATERIAL IN PAMPHLET FORM

CLAPP, FRANK L., and YOUNG, ROBERT V. The Clapp-Young English Test. Boston: Houghton Mifflin Co., 1929.

LURIA, MAX A., and ORLEANS, JACOB S. Luria-Orleans Modern Language Prognosis Test. Yonkers-on-Hudson, New York: World Book Co., 1930.

MONROE, WALTER S., and ENGELHART, MAX D. *Experimental Research in Education.* Bureau of Educational Research Bulletin No. 48. University of Illinois Bulletin, Vol. XXVII, No. 32. Urbana, Illinois: University of Illinois, 1930. Pp. 106. $0.50.

O'BRIEN, FRANCES E. *Individualism in Child Art.* New York: Ethical Culture Branch School (27 West 75th Street). Pp. 16.

O'SHEA, WILLIAM J. *Progress of the Public Schools, May 1, 1924–July 31, 1929.* New York: Board of Education. Pp. xx+168.

Recent issues of the Office of Education:

Bulletin No. 31, 1929—*Legal Education, 1925–1928* by Alfred Z. Reed.

Bulletin No. 36, 1929—*Bibliography of Research Studies in Education: 1927–1928.*

MISCELLANEOUS PUBLICATIONS

Dictionary of American Biography, Volumes I–IV. Edited by Allen Johnson and Dumas Malone. Published under the auspices of the American Council of Learned Societies. New York: Charles Scribner's Sons, 1929 and 1930.

Encyclopaedia of the Social Sciences, Volume I. New York: Macmillan Co., 1930.

MASON, BERNARD S. *Camping and Education.* New York: McCall Co., 1930. Pp. xiv+284. $3.00.

PRITCHETT, HENRY S. *The Social Philosophy of Pensions with a Review of Existing Pension Systems for Professional Groups.* Bulletin Number Twenty-five. New York: Carnegie Foundation for the Advancement of Teaching, 1930. Pp. iv+86.

ROSE, MARY SWARTZ, and GRAY, CORA E., with the co-operation of KATHERINE L. FOSTER. *The Relation of Diet to Health and Growth of Children in Institutions.* Child Development Monographs, No. 2. New York: Teachers College, Columbia University, 1930. Pp. viii+128.

SANFORD, VERA. *A Short History of Mathematics.* Boston: Houghton Mifflin Co., 1930. Pp. xii+402. $3.25.

SWIFT, EDGAR JAMES. *The Psychology of Childhood.* New York: D. Appleton & Co., 1930. Pp. x+432. $2.25.

The World Book Encyclopedia, Volumes 1–12. Chicago: W. F. Quarrie & Co., 1929 and 1930.